US-09-186-342-2.rag

Fri Jun

ď

Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd

protein - protein database search, using Smith-Waterman algorithm MPsrch_pp

Wed May 31 11:03:21 2000; MasPar time 8.27 Seconds 638.314 Million cell updates/sec Run on:

Tabular output not generated.

>US-09-186-342-2 (1-223) from US09186342.pep 1686

Title: Description: Perfect Score:

1 MRVSGVLRLLALIFAIVTTW......KYEGWPELLEMEGCMPPKPF 223 Sequence:

PAM 150 Gap 11 Scoring table:

188963 seqs, 23686106 residues Searched:

Post-processing: Minimum Match 0% Listing first 45 summaries

Database:

a-geneseq36 1:geneseqp

Mean 33.108;

Statistics:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Variance 140.762; scale 0.235

SUMMARIES

	Pred. No.	1.51e-153	2.59e-84	2.59e-84	2.45e+00	6.95e+00	2.28e+01	2.28e+01	2.70e+01	2.70e+01	3.77e+01	3.77e+01	3.77e+01	4.44e+01	4.44e+01	4.44e+01	4.44e+01	4.44e+01	6.17e+01	6.17e+01	6.17e+01	5.24e+01	5.24e+01	6.17e+01
	Description	Protein encoded by a c	Protein sequence encod	Human colon specific q		Human mitochondrial is	Sequence of yellow tai	Gentian flavonoid 3'-h	Human nuclear protein	Amino acid sequence of	Haemin-binding protein	Haemin-binding protein		Bovine Somatotropin an	Bovine Somatotropin an	Bovine growth hormone	HUG-Br1.	HUG-Br2.	Bovine Somatotropin an	Yellow tail/fin tuna g	Yellowtail tuna growth	Bovine growth hormone	Bovine growth hormone	Staphylococcus aureus
	ID	W80475	W46878	W06547	R97984	W48720	P81244	W35714	W62596	W80950	R42381	R42379	R42374	R10967	R10955	W40449	R26153	R26154	R10958	W27340	W25120	R72115	W40457	W77603
	DB	-	Н	Н	Н	Н	7	-	Н	Н	Н	Н	П	Н	Н	Н	-	П	н	Н	Н	Н	Н	Н
	Length DB	223	135	135	618	993	187	476	642	642	146	176	178	191	191	217	533	534	191	204	204	217	217	275
æ	Query	100.0	58.9	58.9	6.4	9.0	2.6	5.6	5.6	9.9	5.5	5.5	5.5	5.4	5.4	5.4	5.4	5.4	5,3	5.3	5.3	5.3	5.3	5.3
	Score	1686	666	993	108	102	. 95	95	94	94	93	92	92	91	91	91	91	91	83	83	83	90	06	83
	Result No.	н	7	m	4	2	9	7	æ	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23

ö

Gaps

ö

Score 1686; DB 1; Length 223; Pred. No. 1.51e-153; 0; Mismatches 0; Indels

Query Match 100.0%; Best Local Similarity 100.0%; Matches 223; Conservative

q οy qq

61 PANYFAFKICSGAANVVGPTMCFEDRMIMSPVKNNVGRGLNIALVNGTTGAVLGQKAFDM 120

1 MRVSGVLRLLALIFALVTTWMFIRSYMSFSMKTIRLPRWLASPTKEIQVKKYKCGLIKPC 60

5.24e+01	6.17e+01	6.17e+01	6.17e+01	6.17e+01	6.17e+01	6.17e+01	6.17e+01	7.27e+01	7.27e+01	7.27e+01	8.55e+01	8.55e+01	7.27e+01	7.27e+01	7.27e+01	7.27e+01	8.55e+01	8.55e+01	8.55e+01	7.27e+01	1.00e+02
Pyridine nucleotide tr	Mitochondrial glycerol	Glycerol-3-phosphate d	Klebsiella pneumoniae	The gibbon ape leukemi	GALV receptor protein.	Human gibbon ape leuka	Human sodium-lithium c	Amino acid sequence of	Sequence of ovine grow	Ovine growth hormone.	Ovine growth hormone.	Recombinant Human Soma	Ovine pre-growth hormo	Ovine growth hormone-1	Goat growth hormone pr	H. pylori GHPO 1479 pr	H. pylori ORF 29qe3032	Cyclomaltodextrin gluc	Sequence of cyclomalto	Peripheral nervous sys	GC-A.
W69359	W57326	W30682	W60257	W96998	R72969	R10848	W70498	W59885	P60014	R35432	R40169	R03253	P40015	R05794	P90914	W98535	W55528	R10052	R06110	R92316	R38862
1	Н	Ч	7	٦	-	7	7	7	П	٦	Т	٦	7	٦	П	Н	-	٦	7	-	7
462	614	614	614	649	619	619	619	166	190	191	191	194	217	217	217	418	418	713	713	1835	1029
5.3	5.3	5.3	5.3	5.3	5.3	5,3	5.3	5.2	5.5	2.5	5.2	5.5	5.2	2.5	5.2	2.5	5.2	2.5	5.2	5.5	5.1
06	88	83	83	68	83	89	83	88	88	88	87	87	88	88	88	88	87	87	87	88	98
24	25	26	27	28	58	30	31	32	33	34	32	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

a

ò

ò

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                149 PGTKMNDESRKLFSDLGSSYAKQLGFRDSWVFIGAKDLRGKSPFEQFLKNSPDTNKYEGW 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89 MSPVKNNVGRGLNIALVNGTTGAVLGQKAFDMYSGDVMHLVKFLKEIPGGALVLVASYDD 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 PGTKMNDESRKLFSDLGSSYAKQLGFRDSWVFIGAKDLRGKSPFEQFLKNSPDTNKYEGW 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Potassium channel genes from Drosophila melanogaster and Caenorhabditis elegans - useful in assaying substances to determine effects of cell growth, and in inhibiting nematode and insect pests Claim 26, Page 37-39; 79pp: English.
This potassium channel sequence is encoded by the DmORFI gene from Drosophila melanogaster, and has 2 pore-forming domains between 4 hydrophobic transmembrane helix domains. Each pore-forming H5 domains with a VF-G dipeptide motif required for potassium septectivity. The protein contains a single N-terminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DMORF! potassium channel protein.

DMORF!; potassium channel; fruitfly; pore-forming domain, transmembrane helix; N-glycosylation site; potassium-agonist; potassium-antagonist; drug screening; insecticide; cardiac disorder.
                    colon cancer metastasis.
Claim 8; Fig 4; 60pp; English.
Novel polypeptides (W06545-53) are encoded by CDNA clones (see also 745880-92) corresponding to 13 human colon specific genes, designated CSG1, CSG2, etc., that are primarily expressed in tissues derived from the colon. Recombinant CSG polypeptides can be produced in transformed host cells. They are useful diagnostic markers for colon cancer and for colon cancer metastasis and can also be used to screen for (ant)agnostic therapeutic or diagnostic value. Antibodies raised against the colon specific polypeptides may be used to target colon cancer cells or as part
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
  which, in non-colon tissue samples, can be used as indication of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MSPVKNNVGRGLNIALVNGTTGAVLGQKAFDMYSGDVMHLVKFLKEIPGGALVLVASYDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 135;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "Pore-forming domain H5-1"
120. .140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Pore forming domain H5-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "Transmembrapé domain M2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Transmembrane domain M3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Tyánsmembrane domain M4"
                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 993; DB 1; 1
Pred. No. 2.59e-84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Transmembrane domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "N-glycosylation sixe'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers 6...27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R97984 standard; Protein; 618 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-OCT-1994; US-332312.
(AMCY ) AMERICAN ÇYANAMID CO.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 58.9%;
Best Local Similarity 100.0%;
Matches 135; Conservative
                                                                                                                                                                                                                                                                                                                                                 of a colon cancer vaccine.
Sequence 135 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 PELLEMEGCMPPKPF 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Orosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note=
208..2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ľ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09-MAY-1996.
25-OCT-1995; U14364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pausch MH, Price WPI; 96-239450/24.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; T33201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            modified_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO9613520-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16-0CT-1996
                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R97984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           domain
  DANKE KERKER PRODUCTION OF THE FEBRER REPORTED TO THE PRODUCT OF THE FEBRER REPORTED TO THE PRODUCT OF THE PROD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       as probes to detect expression of the corresponding human genes, e.g. in diagnostic assays for detecting micrometastases of colon cancer. Recombinant cells containing the polynuclectides can be used to produce the proteins, in order that antibodies can be raised and used in further screening or diagnostics. Sequence 135 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
PANYFAFKICSGAANVVGPTMCFEDRMIMSPVKNNVGRGLNIALVNGTTGAVLGQKAFDM 120
                                                                                      89 MSPVKNNVGRGLNIALVNGTTGAVLGQKAFDMYSGDVMHLVKFLKEIPGGALVLVASYDD 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PGTKMNDESRKLFSDLGSSYAKQLGFRDSWVFIGAKDLRGKSPFEQFLKNSPDTNKYEGW 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        149 PGTKMNDESRKLFSDLGSSYAKQLGFRDSWVFIGAKDLRGKSPFEQFLKNSPDTNKYEGW 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MSPVKNNVGRGLNIALVNGTTGAVLGQKAFDMYSGDVMHLVKFLKEIPGGALVLVASYDD 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human colon specific genes and their expression products - detection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; Fig 4; 51pp; English.
W46876-80 and W4682-85 represent proteins encoded by colon-specific
genes. The polynucleotides encoding these proteins can be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Colon-specific nucleic acids - useful as probes for detecting colon
                                                     121 YSGDVMHLVKFLKEIPGGALVLVASYDDPGTKMNDESRKLFSDLGSSYAKQLGFRDSWVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human colon specific gene CSG4 polypeptide fragment.
Colon specific gene; CSG4; colon cancer; metastasis; diagnosis;
therapy; antibody; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 135;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 993; DB 1; Lengtn 10., Pred. No. 2.59e-84;
                                                                                                                                                                                                                                                                                                                                                                                                    22-JUN-1998 (first entry)
Protein sequence encoded by a colon-specific gene.
Colon-specific gene; probe; detection; expression; human; diagnostic assay; colon cancer; antibody; screening.
                                                                                                                                                                    181 IGAKDLRGKSPFEQFLKNSPDTNKYEGWPELLEMEGCMPPKPF 223
                                                                                                                                                                                                     standard; Protein; 135 AA.
                                                                                                                                                                                                                                                                                                                                              standard; Protein; 135 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (HUMA-) HUMAN GENOME SCI INC.
Rosen CA, Yu G;
4P<u>I</u>; 97-043054/04.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 58.9%;
Best Local Similarity 100.0%;
Matches 135; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13-MAR-1997 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PELLEMEGCMPPKPF 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12-DEC-1996
06-JUN-1995; U07289.
06-JUN-1995; WO-U07289.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-JUN-1995; 469667.
06-JUN-1995; US-469667.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cancer micrometastases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98-229823/20.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 97-043054,
N-MEDB; T45883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
W09639419-A1.
12-DEC-1996.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Xu G:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; V1667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gomo_saplens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      W06547 8
                                                                                                                                                                                                                                                                                                                                           W46878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rosen
61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       209
```

 ID DDT DDT DDS DDS DDS DDS DDS DDS m

protein

ಳ

```
;
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   s,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     recombinant proteins, yeather strains, etc.

Claim 3: Columns 47-52; 46pp; English.

The present sequence is that of a human mitochondrial isoleucyl-tRNA synthetase. The cDNA encoding for the mitochondrial isoleucyl-tRNA synthetase was isolated from a human T-cell cDNA library. The cDNA can be expressed using expression vectors to produce the corresponding recombinant protein. The protein can be used in assays to test substances known to inhibit the isoleucyl-tRNA synthetase or other tRNA synthetase or pathogenic organisms. Also, expression of the isoleucyl-tRNA synthetase in a tester strain can be useful for testing substances which are capable of inhibiting its activity.
                                                                                                                                                                                                                                                                                                       FFAFTVCSTVGYGNISPTT-FAGRMIMIAY-SVIGIPVNGILFAGL-GEYFG-RTFEAIY 152
                                                                                                                                                                                                                                                                                                                          887 VIEPGLLFEIIEMLQSEETSSTSQ-LN-ELMMASESTLLAQEPREM-TADVIELKGKFLI 943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5; Gaps
       The protein is predicted to
asparagine-linked glycosylation site. The protein is predicted to span the membrane 4 times, with N- and C-termini within the cell, and the glycosylation site and H2 domains on the cell exterior, allowing permeation of the membrane by the pore-forming domains from the outside, a requirement for functional potassium channel formation. The protein may be expressed in a heterologous host cell to assay substances to determine effects on cell growth. Potassium-agonists of potassium-antagonists identified by this method may be used as insecticides or in therapy of cardiac
                                                                                                                                                                                                                                                                        ;
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human isoleucyl-tRNA synthetase DNA - useful for producing recombinant proteins, tester strains, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 993;
                                                                                                                                                                                                                                  Score 108; DB 1; Length 618;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mitochondrial isoleucyl-tRNA synthetase; T-cell; pathogen.
                                                                                                                                                                                                                                                Pred. No. 2.45e+00;
14; Mismatches 20; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23; Mismatches 23; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-700.1
Sequence of yellow tail fish pre-growth hormone pyGH1; somatotropin.
Evellow tail fish.
Location/Oualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 102; DB 1; Pred. No. 6.95e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-AUG-1998 (first entry)
Human mitochondrial isoleucyl-tRNA synthetase,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (CANC-) CANCER INST JAPANESE FOUND CANCER. (CUBI-) CUBIST PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                   JT 5
W48720 standard; Protein; 993 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P81244 standard; protein; 187 AA. P81244;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kranz JE, Schimmel PR, Shiba K;
WPI; 98-332142/29.
N-PSDB; V18326.
                                                                                                                                                                                                                            Query Match 6.4%;
Best Local Similarity 33.3%;
Matches 20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Match 6.0%;
Local Similarity 30.1%;
Nes 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-MAY-1994; 250852.
06-JUN-1995; US-468557.
27-MAY-1994; US-250852.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            944 NLEGGDIREESSY 956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EIPGGALVLVASY 146
                                                                                                                                                                      disorders, etc.
Sequence 618 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
US5759833-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
   8888888888888
                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AC AC DE DE DE COS SE EH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
wPI; 88-216878/31.

Escherichia coli plasmid used for growth of yellow tail fish comprises plasmid ps14001 derived from ampicillin resistant gene obtd. from pituitary tissue of yellow tail fish;

i Fig 4; 7pp; Japanese.

The E.coli plasmid comprises plasmid ps14001 derived from ampicillin resistant gene contg. E.coli plasmid ps322 and yellow tail pre-growth hormone having cyclic double chain plasmid pyGH1 of 3851 Bp, and yellow tail growth hormone of 185 and 187 (p81244) Ah sequences contd. in pyGH1. The plasmids were introduced into E.coli host cell DH1. The plasmids are used for cultivation of young yellow tail, by E.coli and Bacillus subtillis having recombinant plasmid for yellow tail pre-growth hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This polypeptide comprises gentian flavonoid 3' hydroxylase (F3'H). Its amino acid sequence was deduced from a cDNA clone (see T94664) isolated from a petal cDNA library. F3'H acts on dihydrokaempferol to produce dihydroquercetin and on naringenin to produce eriodictyol. Isolated F3'H nucleic acids (see T94655-65) can be used to provide genefic constructs capable of modulating the hydroxylation of flavonoid compounds in a plant, e.g. by de novo expression, over-expression, antisense inhibitton and ribozyme activity. Modulation of F3'H is useful for the manipulation of pigmentation (flavonoids contribute to a range of colours from yellow to red to blue) in plants, especially flowering plants such as petunia, carnation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     chrysanthemum, rose, snapdragon, tobacco, cornflower, pelargonium, lisianthus, gerbera, apple, iris, lily, african violet and morning
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel flavonoid 3'-hydroxylase(s) from flowering plants - and corresponding DNA, used in the manipulation of pigmentation in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 95; DB 1; Length 476; Pred. No. 2.28e+01; 23; Mismatches 45; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 5.6%; Score 95; DB 1; Length 187;
Best Local Similarity 29.8%; Pred. No. 2.28e+01;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15; Mismatches 17; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                69 SSVLKLLSISYRLVESWEFSSRFLSGGSALRNQISPRLSELKTEIQL 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Flavonoid 3' hydroxylase; pigmentation; flower colour;
transgenic plant; gentian.
Gentiana triflora Pall. var japonica Hara.
3. .187
/note="185 AA SQ, see CC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 23; Page 181-184; 234pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Brugliera F, Holton TA, Michael MZ;
WPI; 97-448691/41.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       W35714 standard; Protein; 476 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-MAR-1998 (first entry)
Gentian flavonoid 3'-hydroxylase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     structural gene amplification.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 5.6%;
Best Local Similarity 24.5%;
Matches 23; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                              23-JUL-1987; 184083.
24-JUL-1986; JP-174385.
3-JUL-1987; JP-184083.
(NAKA) Nakajima K.
WPI; 88-216878/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   04-SEP-1997.
28-FEB-1997; AU0124.
01-MAR-1996; AU-008386.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (FLOR-) FLORIGENE LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           476 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB; T94664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO9732023-A1.
                                                         .163152985-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            W35714;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       plants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qlory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME OF THE PROPERTY OF THE PR
```

88

g

g ð

ð

```
WPI; 98-59481/50.

N-PSDB; V66588.

This is the malignant and other cell growth abnormalities control malignant and other cell growth abnormalities.

Claim 2; Pages S8-61; 75pp; English.

This is the amino acid sequence of a human nuclear protein (HEC) used in the method of the invention to diagnose cell growth abnormalities.

Fragments of HEC are used to detect HEC-encoding nucleic acid, in conventional immunoassays to detect HEC or peptides. HEC is used to modilate cell cycle progression (by disrupting chromatid separation) and antibodies are used to disorder sister chromatid alignment and separation in interphase cells, disrupting mitosis, particularly for control of malignancy and other cell growth abnormalities at the control of malignancy and other cell growth abnormalities at the control of malignancy and other cell growth abnormalities at the control of malignancy and other cell growth abnormalities at the sequences encoding HEC or related protein purification, to isolate sequences encoding HEC or related proteins; to study HEC immunisation.

Medical States and antibodies can also be used for protein purification.

Immunisation.

Immunisation.
                                           16-FEB-1999 (first entry)
Amino acid sequence of the human nuclear protein.
Human nuclear protein; HEC; cell growth abnormality; hybridisation;
amplification; antibody; immunoassay; malignancy; mitosis; antigen;
immunoprecipitation; immunisation; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              selected from haemin-binding protein, haemolysin, LppB and LppC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Haemin-binding protein produced as fusion protein in pGCH5. Haemophilus somnus; immunogenic; haemolysin; LppB; LppC; thromboembolic meningoencephalitis; septicaemia; arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 94; DB 1; Length 642; Pred. No. 2.70e+01; 9; Mismatches 15; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Haemophilus somnus immunogenic proteins used in vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             122 VKDFLKIFTFLYGFLCPSYELPDTKFEEEVPRIFKDLGYPFA 163
                                                                                                                                                                                                                           03-APR-1998; U06727.
04-APR-1997; US-042609.
(TEXA ) UNIV TEXAS SYSTEM.
Allred DC, Chamness GC, Clark GM, Hilsenbeck SG, Osborne CK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               oneumonia; lktA gene; Pasteurella haemolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pontarollo RA,
W80950 standard; Protein; 642 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R42381 standard; Protein; 146 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and corresp. DNA
Claim 1; Fig 6; 119pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 40.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (UYSA-) UNIV SASKATCHEWAN.
Harland RJ, Pfeiffer CG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-APR-1994 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-893424.
US-893426.
US-038287.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CA0135.
US-865050.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-MAR-1993; US-038288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-038719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rioux C, Theisen M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Haemophilus somnus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 93-351733/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    642 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     051082
                                                                                                                                                                                               WO9845433-A1.
                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                         15-OCT-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              05-APR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-APR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              04-JUN-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        04-JUN-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-MAR-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  W09321323-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R42381:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This protein comprises a novel human nuclear protein, designated
This protein comprises a novel human nuclear protein, designated
This protein comprises a novel human nuclear protein, designated
This protein comprises a novel human nuclear to be crucial for
normal mitosis. Its amino acid sequence was deduced from an
isolated B cell cDNA clone (see V38564). HEC localises to the
nuclei of interphase cells and redistributes to centromeres during
M phase. Ectopic expression of a mutant HEC containing only the
leucine heptad repeats results in cells being unable to divide more
than once. Inactivation of HEC results in disordered sister
conformatid alignment and separation, and formation of non-viable
cells with multiple, fragment micronuclei. HEC interacts through
its leucine heptad regions with several proteins involved in
itsels, including nek2, sbi.8 and 2 different regulatory subunits
of the 26s proteasome, MSSI and p45. These properties suggest
other to kinetochores, sister chromatic movement, and M phase
                            LRKICSVHLFSSKALDDFQHVRHEEICILIRAIASGGHAPVNLGKLLGVCTTNALARVML 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; V38564.

Worlels and encoding human nuclear protein HEC modulating mitosis useful to, e.g control cell malignancies and other cell growth abnormalities at mitosis stage and to produce HEC protein and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          abnormalities at the cell mitosis stage. HEC peptides are useful in vaccines and may be administered to cells to disrupt chromatid separation and so modulate cell cycle progression (claimed). HEC specific antibodies are useful in purifying native or recombinant HEC and to detect HEC protein/peptides in samples (claimed immunodetection kits are provided). They can also be administered to disorder slater chromatid alignment and separation in an interphase cell, so disrupting mitosis (claimed).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       progression. Particularly and polypeptides are useful in compositions to control cell malignancies and other cell growth abnormalities at the cell mitosis stage. HEC peptides are useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ij
                                                                                                                                                                                                                                                                                         26-0CT-1998 (first entry)
Human nuclear protein HEC.
HEC gene; highly expressed in cancer; human; nuclear protein; mitosis; cell cycle; cell proliferation; malignancy; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5.6%; Score 94; DB 1; Length 642; 40.5%; Pred. No. 2.70e+01;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  129 VK-FLKEIPGGALVLVASYDDPGTKMNDESRKLFSDLGSSYA 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122 VKDFLKIFTFLYGFLCPSYELPDTKFEEEVPRIFKDLGYPFA 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                 148 GRRVFEGDGGENPHADEF-KSMVVEIMVLAGAFN 180
                                                                                                                             label- O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                standard; Protein; 642 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-DEC-1997; U23385.
20-DEC-1996; US-033600.
(TEXA ) UNIV TEXAS SYSTEM.
Chen P, Chen Y, Lee W, Riley DJ;
WPI; 98-377401/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               642 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Modified_site
                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9827994-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             peptide(s)
                                                                                                                                                                                                                                                                                                                                                                                               antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                             W62596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Region
```

ij

Gaps

Ĥ

Potter AA;

Best Loca Matches

සු

RESULT

വ

```
05-APR-1993;
                                                                                        28-OCT-1993.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO9100870-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24 - JAN-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
    NAME OF STREET O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                      2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E. coll as a fusion to the Pasteurella haemolytica leukotoxin gene lktA coded for by plasmid pAA352. The hmb gene fragment was taken from pRAP501 and starts at the codon for the third amino acid residue of ORF1. The haemin binding protein can be used in vaccines for preventing or treating H. Somnus infections, which cause thromboembolic meningo-encephalitis, septicaemia, arthritis and pneumonia in
The hmb gene encoding the haemin-binding protein was expressed in E. coli as a fusion to the Pasteurella haemolytica leukotoxin gene lktA coded for by plasmid pAA352. The hmb gene fragment was taken from pRAP504 and starts at the coden for the 33 rd amino acid residue of ORF1. The haemin binding protein can be used in vaccines for preventing or treating H. somnus infections, which cause thromboembolic meningo-encephalitis, septicaemia, arthritis and pneumonia in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               102 KNLPQGAFDAFVSITFNVGCGKM-QKS-TLFKQANQGFTPQLCHQFERWIYAGGKKLNG 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                              KNLPQGAFDAFVSITFNVGCGKM-QKS-TLFKQANQGFTPQLCHQFERWIYAGGKKLNG 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1; Fig 5; 119pp; English.
The hmb gene encoding the haemin-binding protein was expressed in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Haemophilus somnus immunogenic proteins used in vaccines - selected from haemin-binding protein, haemolysin, LppB and LppC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
2
                                                                                                                                                                                                                                                                                      5,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Haemin-binding protein produced as fusion protein in pGCH5. Haemophilus somnus; immunogenic; haemolysin; LppB; LppC; thromboembolic meningoencephalitis; septicaemia; arthritis; pneumonia; lktA gene; Pasteurella haemolytica.
                                                                                                                                                                                                                                             Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 92; DB 1; Length 176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                      19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Heamin-binding protein from ORF5 of plasmid pRAP501.
Haemophilus somnus; immunogenic; haemolysin; LppB; LppC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Potter AA;
                                                                                                                                                                                                                                           Score 92; DB 1; L. Pred. No. 3.77e+01;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. 3.77e+01;
                                                                                                                                                                                                                                                                                      18; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pontarollo RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R42374 standard; Protein; 178 AA.
R42374;
19-APR-1994 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; Protein; 176 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-APR-1993; CA0135.

09-APR-1992; US-865050.

04-JUN-1992; US-893424.

04-JUN-1992; US-893424.

29-MAR-1993; US-038287.

29-MAR-1993; US-03828.

29-MAR-1993; US-038719.

(UYSA-) UNIV SARRACHEWAN.

Harland RJ, Pfeiffer CG, P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity 28.8%;
17; Conservative
                                                                                                                                                                                                                                           5.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-APR-1994 (first entry)
                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                    Query Match
Best Local Similarity (
                                                                                                                                                                         See also R42370-86.
Sequence 146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          See also R42370-86.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best_Local Similarity
Matches 17; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Haemophilus somnus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rioux C, Theisen M
WPI; 93-351733/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   176 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and corresp. DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          051081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vertebrates
                                                                                                                                                            vertebrates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               R42379
                                                                                                                                                                                                                                                                                                                                 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                X DE DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δŏ
      888888888888
```

```
Claim 1; Fig 2: 119pp; English.
A genomic cosmid library of Haemophilus somnus HS25 DNA was screened for clones capable of binding bovine haemin and having haemolytic activity. Positive clones were subcloned various times, resulting in plasmid pRAPDOI, which binds haemin but is not haemolytic. The clone was sequenced and was found to contain several open reading frames, potentially encoding 8 proteins. The haemin binding protein (encoded by the hmb gene) was encoded by ORPI. The protein can be used in vaccines for preventing or treating H. somnus infections, which cause thromboembolic meningo-encephalitis, septicaemia, arthritis and pneumonia in vertebrates.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                104 KNLPQGAFDAFVSITFNVGCGKM-QKS-TLFKQANQGFTPQLCHQFERWIYAGGKKLNG 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 2; Page 17; 24pp; English.

Replacing Glu at position 126 of bovine somatotropin reduces hydrophobicity and helical stability in the region of the mutation. The analogue-bsy has a lower propensity of the partially denatured protein for aggregation and precipitation during processing. It also has enhanced bloactivity and can be used for enhancing the growth of an animal, e.g. beef cattle or increasing milk production in dairy cows. The mutation was introduced by standard site-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         residues 96 to 133 to reduce hydrophobicity or helical stability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Haemophilus somnus immunogenic proteins used in vaccines -
selected from haemin-binding protein, haemolysin, LppB and LppC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Leu, Gln, His, Lys, Val, Ile,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
thromboembolic meningoencephalitis; septicaemia; arthritis; pneumonia; haemin-binging protein. Haemophilus somnus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Animal somatotropin analogues - have aminoacid changes at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 92; DB 1; Length 178; Pred. No. 3.77e+01; 18; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /label= Ala, Cys, Leu, Gln, His, Lys, V
Phe, Tyr, Trp, Thr, Gly, Ser, Asp, Asn,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bovine somatotropin; bST; dairy cow; helical stability
                                                                                                                                                                                                                                                                                                                                                                                                        Potter AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UPJO ) UPJOHN CO.
Lehrman SR, Havel HA, Plaisted SM, Brems DN;
WPI; 91-051315/07.
                                                                                                                                                                                                                                                                                                                                                                                                     Pontarollo RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16-APR-1991 (first entry)
Bovine Somatotropin analogue #20.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R10967 standard; Protein; 191 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity 28.8%;
17; Conservative
                                                                                                                                                                                                                                                                                                            29-MAR-1993; US-038288.
29-MAR-1993; US-038719.
(UYSA-) UNIV SASKATCHEWAN.
Harland RJ, Pfelffer CG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pro, Arg
                                                                                                                                                                                                                  US-893424.
US-893426.
US-038287.
US-038288.
US-038719.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-JUN-1990; U03550.
10-JUL-1989; US-377926.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Phe,
                                                                                                                                                               CA0135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_difference 126
                                                                                                                                                                                                                                                                                                                                                                                                                                     Theisen M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 178 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                  Rioux C, Theisen r
WPI; 93-351733/44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and corresp. DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of somatotropin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; Q51080
```

ŝ

ဖ

```
Peptide
                                                                                                                                                      Domain
                                                                                                                                                                                                                        Domain
                                                                                                                                                                                                                                                                                              Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                    HE LETT THE FET THE FE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                           4
                                                                                                                                                                                                                                                                            93 LSRVFTNSLVFGTSDRVY-EKLKDLEEG-ILALMRXLEDGTPRAGQILKQTYDKFDTNMR 150
                                                                                                                                                                                                                                                                                                                      93 LSRVFINSLVFGTSDRVY-EKLXDLEEG-ILALMRELEDGTPRAGQILKQTYDKFDTNMR 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-JUL-1998 (first entry)
Bovine growth hormone variant protein K114W.
Growth hormone; variant; mutant; bovine; antagonist; treatment;
dabetic retinopathy; glomerulosclerosis; tumour; serum cholesterol.
Syfthetic.
                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 2; Page 11; 24pp; English.

Replacing Lys at position 114 of bovine somatotropin reduces hydropholicity and helical stability in the region of the mutation. The analogue-bST has a lower propensity of the partially denatured protein for aggregation and precipitation during processing. It also has enhanced bloactivity and can be used for enhancing the growth of an animal, e.g. beef cattle or increasing milk production directed techniques.

See also R10625-7, R10947-R10954 and R10956-R10968.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UDO) ) UDJOHN CO. Lehrman SR, Havel HA, Plaisted SM, Brems DN;
WPI; 91-051315/07.
Animal somatotropin analogues - have aminoacid changes at residues 96 to 133 to reduce hydrophobicity or helical stability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Phe, Tyr, Trp, Thr, Gly,
                                                                                                                                                                                                                        4;
                                                                                                                                                  Length 191;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 91; DB 1; Length 191;
Pred. No. 4.44e+01;
21; Mismatches 32; Indels
                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16-APR-1991 (first entry)
Bovine Somatotropin analogue #9.
bovine somatotropin; bST; dairy cow; helical stability.
                                                                                                                                           Score 91; DB 1; Lenc
Pred. No. 4.44e+01;
21; Mismatches 32;
directed techniques.
See also R10625-7, R10947-R10966 and R10968.
Sequence 191 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= Cys, Val, Ile, I
Ser, Asp, Asn, Pro, Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T 14
R10955 standard; Protein; 191 AA.
R10955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    W40449 standard; Protein; 217 AA.
                                                                                                                                                                                                                                                                                                                                                                                                             151 SDDALLKNYGLLSCFRKDL 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                155 DESRKLFS-DLGSSYAKQL 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                151 SDDALLKNYGLLSCFRKDL 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 5.4%;
Best Local Similarity 27.8%;
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ouery Match
Best Local Similarity 27.8%;
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-JUN-1990; U03550.
10-JUL-1989; US-377926.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_difference 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of somatotropin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9100870-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bos taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24-JAN-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
      ឧ
                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME OF THE PROPERTY OF THE PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ID DT DE DE COS SEN KW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

```
Example 5; Page -; 28pp; English.

This sequence represents a variant of bovine growth hormone which alters the mature protein amino acid sequence represented in W37691. This variant is used in a method to detect growth hormone antagonists. Such disorders characterised by excessive or undesirable growth hormone activity, especially diabetic retinopathy, glomerulosclerosis or growth hormone-dependent tumours, and for lowering serum cholesterol levels. Note: This sequence does not appear in the specification but has been sequence 17 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4
                                                                                                                                                                                                                                                                                                /note= "Wild type Lys is replaced by Trp. Numbering is given from the start of the mature peptide."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              119 LSRVFINSLVFGTSDRVY-EKLWDLEEG-ILALMRELEDGTPRAGQILKQTYDKFDTNMR 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mutant growth hormone polypeptide(s), especially human or bovine useful as growth hormone antagonists for the treatment of, e.g. diabetic retinopathy, glomerulosclerosis, and for lowering cholesterol levels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 217;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21; Mismatches 32; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 91; DB 1; Le
Pred. No. 4.44e+01;
                       27. .217
/label= growth hormone
30. .59
                                                                                                                                                                                                                                                                                                                                                                           /note= "encoded by CCC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Search completed: Wed May 31 11:03:33 2000 Job time : 12 secs.
                                                                                                                                                                                                     134. .153
/label= Helix III
                                                                                                                                                                           /label- Helix II
                                                                                                                                                                                                                                                                                                                                                                                                                             /label- Helix IV
                                                                                                                          /label- Helix_I
. .26
label= signal
                                                                                                                                                                                                                                                                           /label- K114W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              177 SDDALLKNYGLLSCFRKDL 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                : | : | : |:|
155 DESRKLFS-DLGSSYAKOL 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 5.4%;
Best Local Similarity 27.8%;
                                                                                                                                                                                                                                                                                                                                                                                                        . 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22; Conservative
                                                                                                                                                      .106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (OHIS ) UNIV OHIO STATE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12-OCT-1989; US-419561.
12-OCT-1990; WO-U05874.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAY-1991; US-693305.
26-SEP-1994; US-313505.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chen WY, Kopchick JJ;
WPI; 97-535084/49.
                                                                                                                                                                                                                                                                                                                                                    Misc_difference 148
                                                                                                                                                                                                                                                    Misc_difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-OCT-1997.
26-SEP-1994; 304-MAY-1992; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                    US5681809-A
                                                 Protein
```

	Ltd.
4.5	Compugen
version	- 2000
GenCore v	(c) 1993
Gei	(c)
	Copyright

OM nucleic - nucleic search, using sw model

May 31, 2000, 17:24:57 ; Search time 78.65 Seconds (without alignments) 3884.101 Million cell updates/sec Run on:

US-09-186-342-1 1221 1 cgcccgggcaggttgcatct.....aaattttatttttgctggta 1221

Title: Perfect score: Sequence:

Scoring table:

311585 seqs, 125096042 residues IDENTITY_NUC Gapop 10.0 , Gapext 1.0 Searched:

623170 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 1000000

Post-processing: Minimum Match 0% Listing first 45 summaries

N_Geneseq_36:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

,			æ			SUMMARIES	
Result No.	1t 0.	Score	Query	Ä	DB	QI	Description
1	; , ,	1198		1299	-	V63516	Consensus seguence
	7	941		955	Н	V63515	Full length sequen
	m	515.6	42.2	548	-	V16671	Polynucleotide seg
	4	514		548	Н	T45883	
ບ	2	286		301	Н	V63513	g2197992
	9	269.4	22.1	287	H	V63508	
	7	263		263	7	V63509	
	æ	251		251	٦	V63511	
	6	228		228	1	v63510	
	10	209		233	Н	V63507	775762 E
	11	196.4		250	-	V63506	2645837
	12	179.2	14.7	187	~	V63512	Clone 2128334 EST
	13	165.6	13.6	250	Н	V63505	1338704
	14	163.2	13.4	273	Н	V63504	775133 ES
υ	15	114		123	-	V63514	32409650
	16	9	3.2	2358	Н	001000	
•	17	39.2		2440	Н	Q06469	Sequence encoding
	18	S.		3086	Н	006470	
	19	38		6803	Н	T85473	
	20	38		6803	Н	V16305	$^{\circ}$
-	21	S		3475	7	Q21453	Sequence encoding
	22	34.6		1561	٦	Q25420	human
	23	34.4		2363		Q58126	o
	24			2379		Q56944	ger
O	25	34		1521		V01503	Human p53 tumour s
	56	ъ.		1486		V59523	secrete
	27	ж.		3240		083181	E
υ	28			2085		Q81504	45 kDas
	29	33.4		2341		V62155	strain SB5
	30			2694		V62145	strain SB5
υ	31	Э.		117213		V62176	
	32	33	2.7	4	-	011175	
	33		-	1404	-1	Q13878	
	34		2.7	1404	Н	T65136	Aspergillus ficuum

Human TNF receptor Sequence, from ove	Aspergillus ficuum Human PKDI gene. H Human polycystic k Human PKDI locus b	Human type IV coll Expressible sequen Coding strand of n	Human transmembran Human cytokine Ler
V34511 Q11174	T65137 T94101 T18551 T94108	N91700 Q05620 V70354	V16097 T89519
2637	6756 53526 53577 53577	2733 3306 6139	1120 1708
2.7		2.7	2.6
88.89	 	32.8 32.8	32.2
35	37 39 40	4 4 4 2 4 3 3 3 4 3 4 3 4 3 4 3 4 3 4 3	44 45
	000		

																.; -;						
Aspergillus ficum Human PKDI gene. H Human polycystic k Human PKDI locus b Human type IV coll Expressible sequen Coding strand of n Human transmembran Human cytokine Ler			:t; cancer; Barret's esophagus; os; Crohn's disease;		FI (WO9844133-A1.) / Lay- a OB-OCT-1998.		iedman PN,), Klass MR, Stroupe SD;	() () () () () () () () () ()	icreotides, CS141 - used to satment of e.g. cancers, , ulcerative colitis or		nce of a set of contiguous esignated CS141. The sequences	is useful as a marker for nods and products can be	Initoring, prognosticating, Lion to diseases and	such as gastrointestinar c ulcer, gastritis,	383 G; 259 T;	DB 1; Length 1299; s 5; Indels 1; Gaps	ccgggcaggttgcatctagaggagggccgtctgtga-gccactaccctccagcaactgg 62	GGCCACTACCCTCCAGCAACTGG 126	gaggtgggactgtcagaagctggcccagggtggtggtcagctggtcagggacctacggc 122	18	acctgctggaccacctcgccttctccatcgaagcagggaagtgggagcttcgagccctcg 182	GGAAGTGGGAGCCTCGAGCCCTCG 246
TG1174 TG1174 T94101 T18551 T94108 N91700 Q05620 V70354 V16097	ALIGNMENTS	9 BP.	Z8-JAN-1999 (IIRST entry) CONSENSUS sequence of CS141 ESTsence. EST sequence; CS141; gastrointestinal tract; gastric ulcer; gastritis; leiomyoma; polyps; ulcerative colitis; pantreatitis; ss. Synthetic.	ualifiers			Colpitts TL, Fr den M, Hodges SC p L, Russell JC,		specific polynu liagnosis and tre Crohn's disease,	inglish.	consensus sequen EST sequences de	The CS141 gene corders. The meth	ing, staging, mo	ntestinai tract, sophagus, gastric disesse ulcera	A; 353 C;	%; Score 1198; %; Pred. No. 0; 0; Mismatches	gaaggccgtctgtga-	SGAGGCCGTCTGTGAC	:ggcccagggtggtggt	rgccccagggtggtgg	ttctccatcgaagcagg	FTCTCCATCGAAGCAG
53577 1 53577 1 53577 1 2733 1 6139 1 1708 1		(A) 129	entry) of CS14; gastri ritis; pantre	ation/Q 957	g I St	489.	ohen M, EN, Hay rts-Rap		I tract r the d ritis,	16pp; E	e is a apping	issues. act dis	diagnos rmining	et's es	303	- 2	tctagag	TCTAGAG	agaagct 	AGAAGCI	ctcgcct	CICECC
		lard; cDl	(ilrst equence (e; CS141) er; gasti colitis;	3. Locatic 2869	1	; UC-828, ; US-828, OTT LAB.	al PA, Coranados JD, Robe	280/48.	ntestina ducts fo er, qast	s qe 93; 1	sequence ly overla	normal t tinal tr	ecting, or dete	or the g rs, Barr	1299 BP;	ry Match t Local Similarity 99. ches 1212; Conservative	aggttgca	CCACTGCA	ggactgtc	GGACTGTC	tggaccac	TGGACCAC
25.24 25.24 33.33 33.33 35.24 37.24 37.24		1 16 stand 16;	AN-1999 ensus se sequence ric ulce rative c	sapiens	44133-A.	IAR-1998 IAR-1997 IO) ABB(ing-Med	98-568; DB; W80	gastron	reatiti m 1; Pa	present partial	ur and	in det	it cance	nence	<pre>fatch cal Sim s 1212;</pre>	4 ccgggc		~	_		
0		ULT 516 V635 V635	28-J Cons EST gast ulce Synt	Key CDS	08-98 08-60	31-R 31-N (ABE	Bill Gord Krat	WPI;	New deve	panc	and	tumo	usec	trac	Sed	Query Match Best Local S Matches 1212	•	67	ý	12	12:	187
υυυ			KW KW OS	ET E	PN	PR PR	PI PI	DR DR	F F F	PT	ខ្លួន	388	888	888	3 8	~ m z	ΟŸ	ΩĐ	ΟY	qq	ΟŊ	g

```
1082
                                                                                                                                                                                                                        1026
                                                                                                                                                                                                                                1142
                                                                                                                                                                                                                                                                                    Cagggactgctgacggctggtcctgaggacaaactgcccagacttgagcccaatta 1202
 242
         306
                  302
                          366
                                    362
                                                     422
                                                             486
                                                                      482
                                                                               546
                                                                                       542
                                                                                                909
                                                                                                        602
                                                                                                                 999
                                                                                                                          662
                                                                                                                                                                                                                                                                                         726
                                                                                                                                           722
                                                                                                                                                    786
                                                                                                                                                            782
                                                                                                                                                                     846
                                                                                                                                                                             842
                                                                                                                                                                                     906
                                                                                                                                                                                               902
                                                                                                                                                                                                       996
                                                                                                                                                                                                               962
                 aaaatctgcagtggggccgccaacgtcgtgggccctactatgtgctttgaagaccgcatg
                                                                                                                                                           tacgcaaaacaactgggcttccgggacagctgggtcttcataggagccaaagacctcagg
                                                                                                                                                               caggitaaaaagtacaagtgiggcotcatcaagccotgcocagccaactactitgcgitt
                                                                                                                                          gatccagggaccaaaatgaacgatgaagcaggaaactcttctctgacttggggagttcc
                                                                                                                                                                                                                                                  ctgtgtcgcgcctctcctccggaaacagaaccctcccacagcacatcctacccggaag
                                                                                                                                                                                                                                                                   accagcctcagagggtccttctggaaccagctgtctgtggagagaatggggtgctttcgt
                                                                                                                                                                                                                                                                        299
        247
                 243
                         307
                                           367
                                  303
                                                   363
                                                            427
                                                                     423
                                                                             487
                                                                                      483
                                                                                               547
                                                                                                       543
                                                                                                                607
                                                                                                                         603
                                                                                                                                         663
                                                                                                                                                           723
                                                                                                                                                                   787
                                                                                                                                                                                    847
                                                                                                                                                                                                      907
                                                                                                                                                                                                                                                 1023
                                                                                                                                                                                                                                                                           1147
                                                                                                                                                                                                                                                                                           1207
                                                                                                                                                   727
                                                                                                                                                                            783
                                                                                                                                                                                             843
                                                                                                                                                                                                              903
                                                                                                                                                                                                                       296
                                                                                                                                                                                                                                963
                                                                                                                                                                                                                                        1027
                                                                                                                                                                                                                                                          1087
                                                                                                                                                                                                                                                                  1083
                                                                                                                                                                                                                                                                                    1143
                                                                                                                                                                                                                                                                                                     1203
                                                                                                                                                                                                                                                                                                             1267
        셤
à
                 ò
                         g
                                  å
                                          셤
                                                   ò
                                                            셤
                                                                     ò
                                                                            g
                                                                                      õ
                                                                                              g
                                                                                                       à
                                                                                                               a
                                                                                                                                                  a
                                                                                                                                                                  g
                                                                                                                         à
                                                                                                                                 g
                                                                                                                                         õ
                                                                                                                                                          õ
                                                                                                                                                                                    g
                                                                                                                                                                                                     g
                                                                                                                                                                                                                       9
                                                                                                                                                                            ö
                                                                                                                                                                                             ò
                                                                                                                                                                                                              å
                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                    ò
```

```
ö
             28-JAN-1999 (first entry)
Full length sequence of clone 1281865 corresponding to CS141 sequence.
EST sequence; CS141; gastrointestinal tract; cancer; Barret's esophagus; gastric ulcer; gastriis; leiomyoma; polyps; Crohn's disease; ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                     pancratitis

Claim 1; Page 92; 116pp; English.

V63504.15 represent a set of contiguous and partially overlapping EST sequences designated CS141. The sequences are isolated from a cDNA library made from gastrointestinal tract tumour and normal tissues.

The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting, clasoring, staging, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastrointestinal claract concers, crohn's disease, ulcerative collish, pantreatitis, lelomyoma, polyps, crohn's disease, ulcerative collish, pantreatitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 580
                                                                                                                                                                                                                                                                                                                                        EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gatgittaitcgaagctacatgagcitcagcatgaaaaccaiccgictgccacgciggci 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  760
                                                                                                                                                                                                                                                                     t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                    - nsed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cccagccaactactttgcgtttaaaatctgcagtggggccgccaacgtcgtgggcctac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cttctctgacttggggagttcctacgcaaaacaactgggcttccgggacagctgggtctt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ggcctcgcccaaggagatccaggttaaaaagtacaagtgtggcctcatcaagccctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCAGCCAACTACTTTGCGTTTAAAATCTGCAGTGGGGCCGCCAACGTCGTGGGCCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cancers,
                                                                                                                                                                                                                                                                                               or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                              New gastrointestinal tract specific polynucleotides, CS141 · u develop products for the diagnosis and treatment of e.g. cance gastric ulcer, gastritis, Crohn's disease, ulcerative colitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                       Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratcochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD New Jastrointestinal tract specific polynucleotides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77.1%; Score 941; DB 1; Le
100.0%; Pred. No. 2.7e-266;
1ve 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 77.1
Best Local Similarity 100.
Matches 941; Conservative
                                                                                                                                                   08-OCT-1998.
31-MAR-1998; U06337.
31-MAR-1997; US-828489.
(ABBO ) ABBOTT LAB.
                                                                                                                                         WO9844133-A1.
                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               701
V63515
                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
```

ᠬ

```
P-PSDB; W06547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO9639419-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene therapy,
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  996
                                                                                                                                                                                                                                                                                                                                                                            726
                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                        546
                                                                                                                                                                         909
                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T45883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                       g
                                                                                                                                                                                                                       음
                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                          合
                                                                                                                                                                                                                                                                                                                                                                         δy
                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ļ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 15; Fig 4; 51pp; English. V16668-81 represent polynucleotide sequences of partial or full-length cDNA clones of colon-specific genes. The polynucleotides can be used as probes to detect expression of the corresponding human genes, e.g.
                                                                                                                                                                                                                                                                                                                                                  aggtgetgeaggteettgeacgetgtgtegegeeteteeteeteggaaacagaaccetee 1060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cacagcacatectacceggaagaccageeteagagggteettetggaaccagetgtetgt 1120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                   900
CTTCTCTGACTTGGGGAGTTCCTACGCAAAACAACTGGGCTTCCGGGACAGCTGGGTCTT 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             diagnostic assays for detecting micrometastases of colon cancer. Recombinant cells containing the polynucleotides can be used to produce the polypeptides, in order that antibodies can be raised and used in further screning or diagnostics. 173 G; 107 T; Sequence 548 BP; 137 A; 128 C; 173 G; 107 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Colon-specific nucleic acids - useful as probes for detecting colon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    agacacaaacaaatacgagggatggccagagctgctggagatggagggctgcatgcccc
                                                                                                                                                                                                   541 AGACACAAACAAATACGAGGGATGGCCAGAGCTGCTGGAGATGGAGGGCTGCATGCCCCC
                                                                                                                                                                                                                                                    gaagccattttagggtggctgtggctcttctcagccaggggcctgaagaagctcctgcc
                                                                                                                                                                                                                                                                                                   601 GAAGCCATTTTAGGGTGGCTGTGGCTCTTCCTCAGCCAGGGGCCTGAAGAAGCTCCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Length 548;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22-UNV-1998 (first entry)
Polynucleotide sequence of a colon-specific gene.
Colon-specific gene; probe; detection; expression; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 515.6; DB 1; Length
Pred. No. 1e-141;
1; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 diagnostic assay; colon cancer; antibody; screening; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1181 tgcccagacttgagcccaattaaattttatttttgctggta 1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCCCAGACTTGAGCCCAATTAAATTTTTTTTTGCTGGTA 941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         42.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      V16671 standard; cDNA; 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-JUN-1995; 469667.
06-JUN-1995; US-469667.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cancer micrometastases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 98-229823/20.
P-PSDB; W46878.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rosen C, Yu G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US5733748-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   V16671;
121
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                    881
                                                                                                                                                 821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
V16671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ID DATE BET THE PROPERTY OF PARTY OF PA
                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                              ò
                                                                                                a
                                                                                                                                                    ò
                                                                                                                                                                                             g
                                                                                                                                                                                                                                                    δy
                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                       δ
```

5

Gaps

5

486 atgagtcctgtgaaaaacaatgtgggcagaggcctaaacatcgccctggtgaatggaacc 545

1;

Conservative

540;

Matches

δ

Similarity

```
gggctgaggaggaggagcagggggtgctgcgtggaaggtgctgcaggtccttgcacgctg 1025
                                                                                                                                                                                                                                                                                                                                                        845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                785
                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                361 CCAGAGCTGCTGGAGATGGAGGGCTGCATGCCCCCGAAGCCATTTTAGGGTGGCTGTGGC 420
                                                        605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   colon cancer metastasis
(laim 1; Fig 4; 60pp; English.
13 cDNA clones (14580-92), most to them partial clones, correspond
14 cDNA clones (14580-92), most to them partial clones, correspond
15 cDNA clones (14580-92), most of them partial clones, correspond
16 cDNA clones (14580-92), most designated CSG1, CSG2, etc., that
18 are primarily expressed in tissues derived from the colon. CSG7
18 and CSG10 show reduced expression in colon cancer cells as compared
18 to that in normal cells; the remaining genes are overexpressed in
18 colon cancer. The partial CDNA sequences can be used to isolate
19 clones and genomic clones including the complete gene.
28 concleic acids can be used to produce CSG polypeptides (see also
28 concleic acids can be used to produce CSG polypeptides (see also
28 color cancer.
                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ot
                                                      846 ccaqagctgctggagatggaggctgcatgccccgaagccattttagggtggctgtggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tcttcctcaqccaggggcctgaagaagctcctgcctgacttaggagtcagagcccggcag
666 ccagggaccaaaatgaacgatgaaagcaggaaactcttctctgacttggggagttcctac
                                                                                                                                                                                                                              gcaaaacaactgggcttccgggacagctgggtcttcataggagccaaagacctcaggggt
                                                                                                                                                                                                                                                                                                    480 GGCTGNAGGAGGAGGAGGAGGGGGTGCTGCGTGGAAGGTGCTGCAGG-CCTTGCACGCTG
                                                                                                                                 gtgaaattccttaaagaaattccgggggggggtgcactggtggtggtggctcctacgacgat
                                                                                                                                                                                                                                                                                                                                                          Human colon specific genes and their expression products - detect of which, in non-colon tissue samples, can be used as indication
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13-MAR-1997 (first entry)
Human colon specific gene CSG4 cDNA partial clone.
Colon specific gene; CSG4; colon cancer; metastasis; diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            T45883 standard; cDNA; 548
T45883;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-JUN-1995; WO-U07289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1026 tgtcgcgcct 1035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               539 TGTCGCGCCT 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-DEC-1996.
06-JUN-1995; U07289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rosen CA, Yu G;
WPI; 97-043054/04.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        therapy; ss.
```

```
pancreatitis
Claim 1; Page
    F8555555555558
                                                                                                                                                                                                                                                                                                                                                                                                                              å
                                                                                                                                                                                                              g
                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                        Pp
                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                        ò
                                                                       3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST sequence; CS141; gastrointestinal tract; cancer; Barret's esophagus; gastric ulcer; gastritis; leiomyoma; polyps; Crohn's disease; ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                  1025
                                                                                           545
                                                                                                                                  605
                                                                                                                                           61 ACGGGAGCTGTGCTGGGACAGAAGGCATTGTACTTTACTCTGGAGATGTTATGCACCTA 120
                                                                                                                                                                        665
                                                                                                                                                                                                                725
                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                       785
                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                            845
                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                    902
                                                                                                                                                                                                                                                                                                                                                                                  361 CCAGAGCTGCTGGAGATGGAGGCTGCATGCCCCCGAAGCCATTTTAGGGTGGCTGTGGC 420
                                                                                                                                                                                                                                                                                                                                                                          tottcotcagccaggggcctgaagaagctcctgcctgacttaggagtcagagcccggcag 965
                                                                       Gaps
                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ţ
                                                                                       486 atgagtcctgtgaaaaacaatgtgggcagaggcctaaacatcgccctggtgaatggaacc
                                                                                                           1 ATGAGTCCTGTGAAAAACAATGTGGGCAGGGCCTAAAACATCGCCCTGGTGAATGGAACC
                                                                                                                              546 acgggagctgtgctgggacagaaggcatttgacatgtactctggagatgttatgcaccta
                                                                                                                                                                                   gcaaaacaactgggcttccgggacagctgggtcttcataggagccaaagacctcaggggt
                                                                                                                                                                                                                                                                                           gtgaaattccttaaagaaattccggggggtgcactggtgctggtggcctcctacgacgat
                                                                                                                                                                                                               ccagggaccaaaatgaacgatgaaagcaggaaactcttctctgacttggggagttcctac
                                                                                                                                                                                                                                 CCAGGGACCAAAATGAACGATGAAAGCAGGAAACTCTTCTCTGACTTGGGCAGTTCCTAC
                                                                                                                                                                                                                                                               241 GCAAAACAACTGGGCTTCCGGGACAGCTGGGTCTTCATAGGAGCCAAAGACCTCAGGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            - nsed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gastrointestinal tract specific polynucleotides, CS141 - used gastrointestinal tract specific polynucleotides, CS141 - used slop products for the diagnosis and treatment of e.g. cancers, tric ulcer, gastritis, Crohn's disease, ulcerative colitis or
 colon cancer and colon cancer metastasis,
                                                                       7
                                                  514; DB 1; Length 548;
No. 3e-141;
                     Ë
                                                                      8; Indels
                     107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (ABBO ) ABBOTT LAB.

Billing-Wedel PA, Cohen M, Colpitts TL, Friedman PN,
Gordon J, Granados EM, Hayden M, Hodges SC, Klass MR,
Kratcchvil JD, Roberts-Rapp L, Russell JC, Stroupe SD;
WPI; 98-568280/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-JAN-1999 (first entry)
Clone 92197992 EST corresponding to CS141 sequence.
                     ö
                    172
                                                  Score 514; DB
Pred. No. 3e-14
1; Mismatches
                    ວັ
                    129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP.
                   137 A;
                                               Query Match
Best Local Similarity 98.0%;
Matches 539; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          V63513 standard; cDNA; 301
V63513;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
W0984133-A1.
08-OCT-1998.
31-WAR-1998; U06337.
31-WAR-1997; US-828489.
 the colon, partic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1026 tgtcgcgcct 1035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         539 TGTCGCGCCT 548
                   BP;
         therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic.
          in gene t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   develop p
gastric u
                                                                                                                                                                      909
                                                                                                                                                                                                              999
                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                     726
                                                                                                                                                                                                                                                                                           786
                                                                                                                                                                                                                                                                                                                                 846
                                                                                                                                                                                                                                                                                                                                                                          906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI;
 of
ပ္ပပ္သတ္တ
                                                                                                           셤
                                                                                                                               ô
                                                                                                                                                  셤
                                                                                                                                                                      à
                                                                                                                                                                                         g
                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ç
                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                 ð
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-JAN-1999 (first entry)
Clone 3210629 EST corresponding to CS141 sequence.
EST sequence; CS141; gastrointestinal tract; cancer; Barret's esophagus;
gastric ulcer; gastritis; lelomyoma; polyps; Crohn's disease;
ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gtctgtggagagaatggggtgctttcgtcagggactgctgacggctggtcctgaggaagg 1174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cgiggaaggigctgcaggicciigcacgcigigicgcgccictcciccggaaacagaa 1054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ocotoccacagcacatcotaccoggaagaccagcotcagagggtcottctggaaccagot 1114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301 CCTGCCTGACTTAGGAGTCAGAGCCCGGCAGGGGCTGAGGAGGAGGAGCAGGGGGGTGCTG 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
          Claim 1; represent a set of contiguous and partially overlapping Ensequences designated CS141. The sequences are isolated from a cDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting, diagnosing, staging, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, barret's esophagus, gastric ulcer, gastriitis, leiomyoma, polyps, Crohn's disease, ulcerative colitis, pantreatitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Paulication 1: Page 90; 116pp; English.
V63504-15 represent a set of contiguous and partially overlapping E sequences designated CS141. The sequences are isolated from a CDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting, diagnosing, staging, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cctgcctgacttaggagtcagagcccggcaggggctgaggaggaggagcaggggggtgctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 CGTGGAAGGTGCTGCAGGTCCTTGCACGCTGTCGCGCGCCTCTCCTCCTCGGAAACAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 GTCTGTGGAGAGAATGGGGTGCTTTCGTCAGGGACTGCTGACGGCTGGTCCTGAGGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 301;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31-MAR-1998; U06337.
31-MAR-1997; US-828489.
4ABBO ) ABBOTT LAB.
Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD; WPI; 98-568280/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23.4%; Score 286; DB 1; I
100.0%; Pred. No. 1.6e-74;
ive 0; Mismatches 0;
1; Page 92; 116pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   V63508 standard; cDNA; 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 286; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO9844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pancreatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          995
```

S

```
pancreatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 V63511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                    Н
                                                                                                      341
                                                                                                                                                                                                                                               401
                                                                                                                                                                                                                                                                                                                                                                                       461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME OF THE PROPERTY OF THE PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                         셤
                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                  ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Clone 1281865 EST corresponding to CS141 sequence.
EST sequence; CS141; gastrointestinal tract; cancer; Barret's esophagus;
EST sequence; CS141; gastritis; lelomyoma; polyps; Crohn's disease;
ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTCTCCCATCGAAGCAGGGAAGTGGGAGCCTCGGGCTGGAAGCTGACCCAAG 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                261
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ctggcccagggtggtggtcagctgggtcagggacctacggcacctgctggaccacctcgc 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     142 cttctccatcgaagcagggaagtgggagcctcgagcctcgggtggaagctgaccccaag 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ဌ
                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Pages 90-91; 116pp; English.
V63504-15 represent a set of contiguous and partially overlapping E: agequences designated CS141. The sequences are isolated from a cDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting,
                                                                                                                                                                                                                                                                                                                                                             2 ACGAGGGCCGTCTGTNAGGCCACTACCCTCCAGCAACTGGGAGGTGGGACTGTAGANG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCACCCTTCACNTGGACAGGATGAGAGTGTCAGGTGCTTCGCCTCCTGGCCCTCATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         - nsed
                                                                                                                                                                                                                                                                                                                            aggagggccgtctgtga-gccactacccctccagcaactgggaggtgggactgtcagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ccaccettcacetggacaggatgagagtgtcaggtgtgcttcgcctcctggccctcatct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritls, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       diagnosing, staging, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastriits, lelomyoma, polyps, Crohn's disease, ulcerative colitis, pantreatitis. Sequence 263 BP; 69 A; 70 C; 66 G; 58 T;
us, gastric ulcer, gastritis, leiomyoma, polyps, ulcerative colitis, pantreatitis. Pt A; 85 C; 87 G; 58 T;
                                                                                                                                                                                                                                                  ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 263;
                                                                                                                                                                                Length
                                                                                                                                                                                                                                                  4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 242 TTGCCATAGTCACGACATGGATGTTTATTCGAAGCTACATGAGCTT 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        262 ttgccatagtcacgacatggatgtttattcgaagctacatgagctt 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD; WPI; 98-568280/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21.5%; Score 263; DB 1; I 100.0%; Pred. No. 8.2e-68;
                                                                                                                                                                            1;
                                                                                                                                                                            Score 269.4; DB 1
Pred. No. 1.1e-69;
                                                                                                                                                                                                                                                  0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           V63509 standard; cDNA; 263 BP
                                                                                                                                                                         22.1%;
ilarity 98.3%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-JAN-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-MAR-1998; U06337.
31-MAR-1997; US-828489.
   Barret's esophagus,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (ABBO ) ABBOTT LAB
                                                                                                                                                                                                                 Similarity
                                 Crohn's disease,
Sequence 287 BF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic.
Homo sapiens.
WO9844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-OCT-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pancreatitis
                                                                                                                                                                                                                                                  281;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local &
                                                                         Sequence
                                                                                                                                                                            Query Match
                                                                                                                                                                                                                     Local
                                                                                                                                                                                                          Best Loca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
V63509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HD DTT DDT TO DD
       ខ្លួន
                                                                                                                                                                                                                                                                                                                                                                                       Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
```

```
Clone 1735382 EST corresponding to CS141 sequence.
EST sequence; CS141; gastrointestinal tract; cancer; Barret's esophagus; gastric ulcer; gastritis; leiomyoma; polyps; Crohn's disease; ulcerative colitis; pantreatitis; ss.
                                                                                                                               EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        629 ggggggtgcactggtgctggtggcctcctacgacgatccagggaccaaaatgaacgatga 688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              589 aagcaggaaactcttctctgacttggggagttcctacgcaaaacaactgggcttccggga 748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        400
                                                                                                  cccagccaactactttgcgtttaaaatctgcagtggggccgccaacgtcgtgggccctac 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               V63504-15 represent a set of contiguous and partially overlapping E sequences designated CS141. The sequences are isolated from a CDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colltis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                749 cagetgggtetteataggageeaaagaeeteaggggtaaaageeeetttgageagttett
     ggcctcgcccaccaaggagatccaggttaaaaagtacaagtgtggcctcatcaagccctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    diagnosing, staging, monitoring, prognosticating, preventing, of determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastriits, leiomyoma, polyps, Crohn's disease, ulcerative colitis, pantreatitis. Sequence 251 BP; 62 A; 62 C; 76 G; 44 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20.6%; Score 251; DB 1; Length 251; 100.0%; Pred. No. 2.7e-64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Willing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratcorvil JD, Roberts-Rapp L, Russell JC, Stroupe SD; New Jstrointestinal tract specific polynucleotides, C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                            Claim 1; Page 91; 116pp; English.
                                                                                                                                                                                                                                                                                                         543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard; cDNA; 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 20.6
Best Local Similarity 100.
Matches 251; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
W09844133-A1.
08-OCT-1998.
31-MAR-1998; U06337.
31-MAR-1997; US-828489.
(ABBO ) ABBOTT LAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

ö

ö

ö

0; Indels

0; Mismatches

Conservative

263;

Matches

ò

Similarity

281 gatgittaitcgaagctacatgagcitcagcatgaaaaccaiccgictgccacgciggci 340

RESULT

셤 ð

ð 셤

```
28-JAN-1999 (first entry)
Clone 775762 EST corresponding to CS141 sequence.
EST sequence; CS141; agastrointestinal tract; cancer; Barret's esophagus;
gastric ulcer; gastritis; leiomyoma; polyps; Crohn's disease;
ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Clone 2645837 EST corresponding to CS141 sequence.
EST sequence; CS141; gastrointestinal tract; cancer; Barret's esophagus; gastric ulcer; gastritis; lelomyoma; polyps; Crohn's disease; ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                         pancreatitis

Sclaim 1; Page 90; 116pp; English.

Claim 1; Page 90; 116pp; English.

Claim 1; Page 90; 116pp; English.

C sequences designated CS141. The sequences are isolated from a cDNA

C sequences designated CS141. The sequences are isolated from a cDNA

C library made from gastrointestinal tract

C library made from gastrointestinal tract

C disorders. The methods and products can be used in detecting,

C determining the predisposition to diseases and conditions of the

C determining the predisposition to diseases and conditions of the

C gastrointestinal tract, such as gastrointestinal tract cancers,

C Barret's esophagus, gastric ulcer, gastritis, leiomyoma, polyps,

C crohn's disease, ulcerative colitis, pantreatitis.

C crohn's disease, ulcerative colitis, pantreatitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaggtgggactgtcagaagctggcccagggtggtcagctggtcagctcagggacctacggc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 123 acctgctggaccacctcgccttctccatcgaagcagggaagtgggagcctcgagccctcg 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCTGCTGGACCACCTCGCCTTCTCCATCGAAGCAGGGAAGTGGGAGCCTCGAGCCCTCG 184
                                                                                                                                                                                                                                                                                                                                         New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGGCCCACTGCATCTAGAGGAGGCCGTCTGTGAGGCCACTACCCCTCCAGCAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccgggcaggttgcatctagaggagggccgtctgtga-gccactaccctccagcaactgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD; WPI; 98-568280/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31-MAR-1996; U06337.
31-MAR-1997; US-828489.
(ABBC) ABBOTT LAB.
B111ing-Medel PA, Cohen M, Colpitts TL, Friedman PN,
Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 209; DB 1;
Pred. No. 5.3e-52;
0; Mismatches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     V63506 standard; cDNA; 250 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17.18;
97.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 97.4 Matches 223; Conservative
                                                                                                                                                                                             31-MAR-1998; U06337.
31-MAR-1997; US-828489.
                                                                                                                                                                                                                                       (ABBO ) ABBOTT LAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                              Homo sapiens.
W09844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                         08-0CT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               08-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic.
                                                                                                             Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             183
  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                Clone 1807758 EST corresponding to CS141 sequence.
EST sequence; CS141; gastrointestinal tract; cancer; Barret's esophagus;
gastrict ulcer; gastriffs; leionyoma; polyps; Crohn's disease;
ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        V63504.15 represent a set of contiguous and partially overlapping EST sequences designated CS141. The sequences are isolated from a cDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting, diagnosing, staging, monitoring, proponosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, crohn's disease, ulcerative collis, partreatitis, leiomyoma, polyps, crohn's disease, ulcerative collis, pantreatitis, leiomyoma, polyps, Sequence 228 BP; 63 A; 48 C; 68 G; 49 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 GTGCTGGGACAGAAGGCATTTGACATGTACTCTGGAGATGTTATGCACCTAGTGAAATTC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gtgctgggacagaaggcatttgacatgtactctggagatgttatgcacctagtgaaattc 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gtgaaaaacaatgtgggcagaggcctaaacatcgccctggtgaatggaaccacgggagct 554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
               New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 228;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratcchvil JD, Roberts-Rapp L, Russell JC, Stroupe SD, WPI; 98-568280/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18.7%; Score 228; DB 1; L
100.0%; Pred. No. 1.4e-57;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; Page 91; 116pp; English.
                                                                                                                                                                                                                                                  V63510 standard; cDNA; 228 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    V63507 standard; cDNA; 233
V63507;
                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-MAR-1998; U06337.
31-MAR-1997; US-828489.
(ABBO ) ABBOTT LAB.
                                                                                                    879
                                                                                                                          241 CTGCATGCCC 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 228; Conserv
                                                                                                      ctgcatgccc
                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      pancreatitis
                                                                                                                                                                                                                                                                                               28-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                           763510;
                                                                                                                                                                                                            σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10
                                                                                                 698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     555
```

셤

ð

à

a

ò

ï

Gaps

1;

5; Indels

Length 233

64

t 2

```
1019 cacgctg 1025
                                                                                                                                                                                                                                                                                                                                                               181 AAAGNNG 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
W09844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pancreatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          08-OCT-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic.
                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1;
                                                                                                        Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                         V63505
                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                             V63505
                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                               g
 ន្តម្ភន្ល
                                                                                                                                                  ð
                                                                                                                                                                                                              δŏ
                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                       ó
                                                                                                                                                                                                                                                                                                                                    ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    esophagus;
                                                                                pancreatilis.
Claim 1; Pages 89-90; 116pp; English.
V63504-15 represent a set of contiguous and partially overlapping EST sequences designated CS141. The sequences are isolated from a cDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting, disorders. The methods and products can be used in detecting, disorders tracing, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastlitis, leiomyoma, polyps, Crohn's disease, ulcerative collitis, pantreatitis.
Sequence 250 BP; 46 A; 81 C; 78 G; 42 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST
                                                                                                                                                                                                                                                                                                                                                                                                                             gaggtgggactgtcagaagctggcccagggtggtggtcagctgggtcagggacctacggc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                            123 acctgctggaccacctcgccttctccatcgaagcagggaagtgggagcctcgagccctcg 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  t
t
                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                30 CTGGGCCCACTGCATCTAGAGGAGGGCCGTCTGTGAGGNCACTACCCCTCCAGCAACTGG 89
                                                                                                                                                                                                                                                                                                                                                               ccgggcaggttgcatctagaggagggccgtctgtga-gccactaccctccagcaactgg 62
                               t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        partecuring 1; pages 91-92; 116pp; English.
V63504-15 represent a set of contiguous and partially overlapping E sequences designated CS141. The sequences are isolated from a CDNA library made from qastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nseq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        new gastrointestinal tract specific polynucleotides, CS141 - used
develop products for the diagnosis and treatment of e.g. cancers,
gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                               nseq
                         New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     diagnosing, staging, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the
                                                                                                                                                                                                                                                                                                                                   Τ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Barret's disease;
                                                                                                                                                                                                                                                                                                      Length 250;
                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD; WPI; 98-568280/48.
Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST sequence; CS141; gastrointestinal tract; cancer; gastric ulcer; gastritis; lelomyoma; polyps; Crohn's ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Clone 2128334 EST corresponding to CS141 sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183 ggtggaagctgaccccaagccaccttcacctggacaggat 223
                                                                                                                                                                                                                                                                                                     Score 196.4; DB 1;
Pred. No. 2.7e-48;
                                                                                                                                                                                                                                                                                                                                   . 6
                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        V63512 standard; cDNA; 187 BP.
                                                                                                                                                                                                                                                                                                        16.1%;
95.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                      211; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-OCT-1998.
31-MAR-1998; U06337.
31-MAR-1997; US-828489.
(ABBO ) ABBOTT LAB.
                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                  WPI; 98-568280/48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic.
Homo sapiens.
WO9844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              pancreatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-JAN-1999
                                                                             pancreatitis
                                                                                                                                                                                                                                                                                                                         Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         V63512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
```

```
Clone 1338704 EST corresponding to CS141 sequence.
EST sequence: CS141; gastrointestinal tract; cancer; Barret's esophagus; gastric ulcer; gastritis; lelomyoma; polyps; Crohn's disease; ulcerative colitis; pantrealtitis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          63 CTGGGCNCACTGCATCTAGAGGAGGGCCGTCTGTAAGGCCACTACCCCTCCAGCAACTGG 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 ccgccaggggcrgaggaggaggagcagnggrgcrgcgrggaaggrgcrgcaagrccrrg 180
                                                                                                                                                                                                                                                                                                                              839 gggatggccagagctgctggagatggagggctgcatgccccgaagccattttagggtgg 898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             t
                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    refairly, regy cov. The property of contiguous and partially overlapping Expenses designated CS141. The sequences are isolated from a cDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting, diagnosing, staging, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastricitis, leiomyoma, polyps, crohn's disease, ulcerative collis, partreatitis, leiomyoma, polyps, crohn's disease, ulcerative collis, partreatitis, leiomyoma, polyps, crohn's disease, ulcerative collis, partreatitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New gastrointestinal tract specific polynucleotides, CSi41 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4 ccgggcaggttgcatctagaggaggccgtctgtga-gccactaccctccagcaactgg
                                                                                                                                                                                                                                                                                                                                                             959 ccggcaggggctgaggaggaggagcagggggtgctgcgtggaaggtgctgcaggtccttg
gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastrifits, leiomyoma, polyps, Crohn's disease, ulcerative colltis, pantreatitis. Sequence 187 BP, 35 A; 42 C; 74 G; 33 T;
                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13.6%; Score 165.6; DB 1; Length 250; 95.2%; Pred. No. 2.9e-39;
                                                                                                                                                                                            Length 187;
                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (ABBO) ABBOTT LAB.
Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN,
Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR,
Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD;
WPI; 98-568280/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .;
6
                                                                                                                                                                                                   DB 1;
                                                                                                                                                                                                                                                                 .
9
                                                                                                                                                                                            Score 179.2; DB 1
Pred. No. 2.6e-43;
0; Mismatches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Page 89; 116pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    standard; cDNA; 250 BP
                                                                                                                                                                                               14.7%;
96.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 13.6
Best Local Similarity 95.2
Matches 179; Conservative
                                                                                                                                                                                                                                                                 Matches 181; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-MAR-1998; U06337.
31-MAR-1997; US-828489.
                                                                                                                                                                                                                                  Similarity
```

;

```
63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1167
                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ä
                                                                                                                                                                                                                                        Clone 775133 EST corresponding to CS141 sequence.
EST sequence; CS141; gastrointestinal tract; cancer; Barret's esophagus; gastric ulcer; gastritis; leiomyoma; polyps; Crohn's disease; ulcerative colitis; pantreatitis; ss.
                             182
                                                                  V63504-15 represent a set of contiguous and partially overlapping EST sequences designated CS141. The sequences are isolated from a cDNA library made from gastrointestinal tract tumour and normal trisques. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting, diagnosing, staging, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, barret's esophagus, gastric unicer, gastritis, leiomyoma, polyps, crohn's disease, ulcerative colitis, pantreatitis, leiomyoma, polyps, Sequence 273 BP; 49 A; 81 C; 90 G; 46 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9a9gtgggactgtcagaagctggcccagggtggtcgtcagctggtcagtggacctacggc 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       123 acctgctggaccacctcgccttctccatcgaagcagggaagtgggagcctcgagcctcg 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ccgggcaggttgcatctagaggagggccgtctgtga-gccactacccctccagcaactgg 62
 gaggtgggactgtcagaagctggcccagggtggtggtcagctgggtcagggacctacggc
               acctgctggaccacctcgccttctccatcgaagcagggaagtgggagcctcgagccctcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CS141 - used
                                                                                                                                                                                                                                                                                                                                                 31-MAR-1998; U06337.
31-MAR-1997; US-828489.
ABBO ) ABBOTT LAB.
Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD; WPI; 98-568280/48.
New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric lice, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  188 ANCTGCTGGACCANCTNGNCTTTCCATCGAAGCAGGAAGTGGGAGCCTTGAGCCCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1; Length 273;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. 1.5e-38;
0; Mismatches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13.4%; Score 163.2; 93.1%; Pred. No. 1.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; Page 88; 116pp; English.
                                                                                                                                                                                                    V63504 standard; cDNA; 273 BP.
                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 13.4
Best Local Similarity 93.1
Matches 190; Conservative
                                                                                                           ggtggaag 190
                                                                                                                                 243 GGTGGAAG 250
                                                                                                                                                                                                                                                                                                                         W09844133-A1.
                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                             28-JAN-1999
Clone 775133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pancreatitis
                                                                                                                                                                                                                                                                                                                                     08-OCT-1998
                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                  V63504;
63
                          123
                                                     123
                                                                                                         183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63
                                                                                                                                                                          RESULT
V63504
ð
                          g
                                                                             g
                                                     ò
                                                                                                         ô
                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ç
```

```
ö
                                                                                                                                                                                                             Barret's esophagus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      T gastin with the process of the pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1107 aaccagctgtctgtggagagaatggggtgctttcgtcagggactgctgacggctgtcct 1166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         - nsed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                      disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 123;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-MAR-1998; U06337.
31-MAR-1997; US-828489.
81-MAR-1997; US-828489.
Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD; WPI; 98-568280/48.
                                                                                       28-JAN-1999 (first entry) Clone 92409650 EST corresponding to CS141 sequence. EST sequence: CS141 sequence. EST sequence: 92411 gastrointestinal tract; cancer; gastric ulcer; gastritis; leiomyoma; polyps; Crohn's ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9.3%; Score 114; DB 1; 1
100.0%; Pred. No. 2.8e-24;
Live 0; Mismatches 0;
standard; cDNA; 123 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                               W09844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-OCT-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Simi
Matches 114;
                                                                                                                                                                                                                                                                                                                                                   Synthetic
```

Search completed: May 31, 2000, 19:03:54 Job time: 5937 sec

o o RESULT

OM nucleic - nucleic search, using sw model

May 31, 2000, 17:30:02 ; Search time 57.43 Seconds (without alignments) 2763.569 Million cell updates/sec Run on:

Title: Perfect score: Sequence:

US-09-186-342-1 1221 1 cgcccgggcaggttgcatct.....aaattttattttgctggta 1221

IDENTITY_NUC Gapop 10.0 , Gapext 1.0 Scoring table:

230463 seqs, 64992525 residues Searched:

460926 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 1000000

Post-processing: Minimum Match 0% Listing first 45 summaries

Issued_Patents_NA:* Database :

/cgn2_6/ptodata/2/ina/5A_COWB.seq:* /cgn2_6/ptodata/2/ina/5B_COWB.seq:* /cgn2_6/ptodata/2/ina/5C_COWB.seq:* /cgn2_6/ptodata/2/ina/5D_COWB.seq:* /cgn2_6/ptodata/2/ina/ED_COWB.seq:* /cgn2_6/ptodata/2/ina/PCTUS.COMB.seq:* /cgn2_6/ptodata/2/ina/PCTUS.COMB.seq:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	 	Appli	Appli	, Appl		Appli	App11	Appli	Appli	Appli	Appli			, Appl	~	, Appl	, Appl	, Appl	Appli	Appli	Appli	Appli	Appli	Appli	Appli	5187076	, Appl	Appli
	uo	9	ģ		19,	Ļ	7	7	Ä	ć	æ	~	33	19	1,	33	31	31	٦,	'n	'n	'n	'n	9	7		12,	٦,
	Description	Sequence	Sequence	Sequence	Sequence	Seguence	Seguence	Sequence	Sequence	Sequence	Seguence	Seguence	Sequence	Sequence	Sequence	Seguence	Sequence	Sequence	Sequence	Seguence	Sequence	Sequence	Sequence	Sequence	Sequence	Patent No	Sequence	Sequence
SUMMARIES	ΩΙ	US-08-469-667-6	PCT-US95-07289-6	US-08-232-463-14	US-08-665-259-19	US-07-960-389-1	US-07-923-724-7	US-08-609-426A-7	US-08-374-652C-1	US-08-294-189-2	US-08-283-917-8	US-08-961-716-8	US-08-151-574-33	US-08-146-424-19	US-08-693-709-1	US-08-419-448-33	US-08-151-574-31	US-08-419-448-31	US-08-323-443B-1	US-08-190-560-3	US-08-469-277-3	US-08-468-946-3	US-08-468-942-3	US-08-377-292-6	US-07-989-847-7	5187076-5	US-08-365-486A-12	US-07-642-002-1
	DB	7	9		S	~	0	m	က	7	r	٣	Н	Н	~	m	Н	٣	М	7	7	m	4	7	m	7	٣	Н
	Query Match Length DB	548	548	7218	6803	3475	2363	2363	2379	3240	2085	2085	1404	1404	1404	1404	6756	6756	31571	579	579	579	579	2923	2923	2923	5057	5108
de	Query	42.2	42.2	3.8	3.1	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	5.6	5.6	2.6
	Score	515.6	515.6	46.6	38	35.8	34.4	34.4	34.4	33.8	33.6		33	33	33	33	33	33	33	32.6	32.6	32.6	32.6	32	32	32	32	32
	ult No.	П	7	٣	4	Ŋ	9	7	œ	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27
	Result No.			O						O	υ	υ							O					O	υ	υ		

Sequence 31, Appl Sequence 3, Appl1 Sequence 3, Appl1 Sequence 3, Appl1 Sequence 4, Appl1 Sequence 4, Appl1 Sequence 4, Appl1 Sequence 4, Appl1 Sequence 10, Appl Sequence 10, Appl Sequence 11,	Sequence 27, Appl Sequence 10, Appl Sequence 12, Appl Sequence 14, Appl Sequence 27, Appl
US-08-688-077A-31 US-07-951-715A-3 US-08-459-44BA-3 US-07-951-715A-4 US-07-951-715A-8 US-08-459-44BA-8 US-08-459-44BA-8 US-08-459-595A-4 US-08-459-595A-8 US-07-951-715A-10 US-07-951-715A-10 US-07-951-715A-14 US-07-951-715A-14	US-07-951-715A-27 US-08 459-448A-10 US-08 -459-448A-12 US-08-459-448A-14 US-08-459-448A-27
11112233111	нееее
340 1947 1947 1947 3468 3468 3468 3468 3468	3546 3546 3546 3546 3546
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	20222
31.6 31.6 31.6 31.6 31.6 31.6 31.6	31.6 31.6 31.6 31.6 31.6
22 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	4444 12844 13

ALIGNMENTS

Query Match

42.2%; Score 515.6; DB 2; Length 548;

```
US-08-232-463-14/c
Sequence 14, Application US/08232463
Patent No. 5670367
GENERAL INFORMATION:
           TELECOMMUNICATION INFORMATION:
                                    INFORMATION FOR SEQ ID NO: 6: SEQUENCE CHARACTERISTICS: LENGTH: 548 base pairs TYPE: nucleic acid STRANDEDNESS: single
                                                                                                                                                                                                       42.2%;
98.2%;
                    201-994-1700
                                                                                                                                                                                                                          Matches 540; Conservative
                                                                                                                                                       mat_peptide
1..405
                                                                                         TOPOLOGY: linear MOLECULE TYPE: CDNA
                                                                                                                                1..405
                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tgtcgcgcct 1035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             539 TGTCGCGCCT 548
                    TELEPHONE:
TELEFAX: 2
                                                                                                                       NAME/KEY:
LOCATION:
                                                                                                                                                    NAME/KEY:
                                                                                                                                                               ; LOCATION:
PCT-US95-07289-6
                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                               Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1026
                                                                                                                                                                                                                                                                                                                            909
                                                                                                                                                                                                                                                                                                                                                                                                           726
                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                  786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          996
                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                   5
                                                                                                                                                                                                                                                                                                                                                                 gggctgaggaggaggaggaggggtgctgcgtggaaggtgctgcaggtccttgcacgctg 1025
                                   845
                                                                            acgggagctgtgctgggacagaaggcatttgacatgtactctggagatgttatgcaccta 605
                                                                                      725
                                                                                                                                                                                                     785
                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                    905
                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                           965
                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                        tcttcctcagccaggggcctgaagaagctcctgcctgacttaggagtcagagcccggcag
                                                                                                                                                            ccagggaccaaaatgaacgatgaaagcaggaaactcttctctgacttggggagttcctac
                                                                                                                                                                                                  gcaaaacaactgggcttccgggacagctgggtcttcataggagccaaagacctcaggggt
                                                                                                                                                                                                             ;
                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Stewart & Olstein
ADDRESSEE: Stewart & Olstein
STREET: 6 Becker Farm Road
CITY: Roseland
STATE: NJ
COUNTRY: USA
ZIP: 707068-1739
COMPUTER READABLE FORM:
WEDIOM TYPE: Floppy disk
COMPUTER: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/07289
FILING DATE: 06-JUN-1995
. 3e-142;
7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genes and
                 1; Mismatches
        Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCT-US95-07289-6
Sequence 6, Application PC/TUS9507289
GENERAL INFORMATION:
APPLICANT: Yu, Guo-Liang
APPLICANT: Rosen, Craig
TITLE OF INVENTION: Colon Specific Ger
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Ferraro, Gregory D.
REGISTRATION NUMBER: 36,134
REFERENCE/DOCKET NUMBER: 325800-265
       98.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
              Matches 540; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                       tgtcgcgcct 1035
                                                                                                                                                                                                                                                                                                                                                                                                                         539 rerececer 548
     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 0 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                996
                                                                                                                                                                                                                                                                                                                                                                                                       1026
                                                                           546
                                                                                               61
                                                                                                                                                                                                                                                             301
                                                                                                                                                           999
                                                                                                                                                                                                 726
                                                                                                                                                                                                                                                                                                                         906
                                    ò
                                                                           ò
                                                                                             g
                                                                                                                  ò
                                                                                                                                    g
                                                                                                                                                         ò
                                                                                                                                                                            g
                                                                                                                                                                                                 ò
                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                å
                                                                                                                                                                                                                                                                                                    윱
                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                         g
```

```
ä
                                                                                           gggctgaggaggaggaggaggggtgctgcgtggaaggtgctgcaggtccttgcacgctg 1025
                                                                                                                                                         gtgaaattccttaaagaaattccgggggggtgcactggtgctggtggcctcctacgacgat 665
                                                                                                                                                                                                                                                                                         845
                                                                                                                                                                                                                                                                                                    486 atgagtectgtgaaaaacaatgtgggeagaggectaaacatcgcectggtgaatggaacc 545
                                                                                                                                                                                            ccagggaccaaaatgaacgatgaaagcaggaaactcttctctgacttggggagttcctac 725
                                                                                                                                                                                                                                                                                                                                                                                    tetteeteagecaggggeetgaagaageteetgeetgaettaggagteagageeeggeag 965
                                                                                                                                                                                                       7
  548;
  Length
                         Indels
Score 515.6; DB 6;
Pred. No. 3e-142;
1; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: DORNER, F.
APPLICANT: SCHETELINORR, F.
APPLICANT: FALKER, F. G.
TITLE OF INVENTION: RECOMBINANT FOWLPOX VIRUS
```

```
868 gctgcatgcccccgaagccattttagggtggctgtggctcttcctcagccaggggcctga 927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 158 GCTCCCTGCCGCCTAGGACTGTCCAGCCCATCTATGCCCTCTCCCCCAGCCTGTGCCCCAA 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              928 agaagctcctgcctgacttaggagtcagagcccggcaggggctgaggaggaggagcaggg 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                    Sequence 19, Application US/08665259
Patent No. 6028173
GENERAL INFORMATION:
APPLICANT: Burn, Timothy C.
APPLICANT: Dackowski, William R.
APPLICANT: Van Raay, Terence J.
APPLICANT: Wan Ray, Terence J.
APPLICANT: Ringer, Ratherine W.
APPLICANT: COMPOSITION: OWNER HUMAN CHROMOSOME 16 GENES,
TITLE OF INVENTION: COMPOSITIONS, METHODS OF MAKING AND USING SAME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 5; Length 6803;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human GM-CSF Receptor Component
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/665,259 FILING DATE: 17-JUN-1996 CLASSIFICATION: 435 CLASSIFICATION: 435 ATTORNEY/AGENT INFORMATION:
NAME: Dugan, Deborah A. REGISTRATION NUMBER: 37,315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 3.1%; Score 38; DB 5; Best Local Similarity 59.4%; Pred. No. 0.19; Matches 82; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: United States of America ZIP: 01701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                     GENZYME CORPORATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application US/07960389 Patent No. 5705611
GENERAL INFORMATION:
APPLICANT: HAYASHIDA, Kasuhiro;
TITLE OF INVENTION: Human GM-CS;
NUMBER OF SEQUENCES: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: IGS-REFERENCE/DOCKET NUMBER: IGS-TELECOMMUNICATION INFORMATION: TELEFAX: (508) 872-5415
INFORMATION FOR SEQ ID NO: 19: SEQUENCE CHARACTERISTICS: LENGTH: 6803 base pairs TYPE: nucleic acid STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear

MOLECULE TYPE: DNA (genomic)
US-08-665-259-19
                                                                                                                                                                                                                                                                                                                                                                                       STREET: One Mountain Road CITY: Framingham STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   988 ggtgctgcgtggaaggtg 1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            277 CGCCTGAGTTGCAGGTG 294
                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                         US-08-665-259-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-07-960-389-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660 gacgatccagggaccaaaatgaacgatgaaagcaggaaactcttctctgacttggggagt 719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480 atgatcatgagtcctgtgaaaaacaatgtgggcagaggcctaaacatcgccctggtgaat 539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540 ggaaccacgggagctgtgctgggacagaaggcatttgacatgtactctggagatgttatg 599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tectacgeaaaacaactgggettecgggacagetgggtetteataggagecaaagaeete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1087 REREREREREREREREREREREATCGCAAGCTCCCTCGACCTGCAGCTCGG 1033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1; Length 7218;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 3.8%; Score 46.6; DB 1; Length 7
Best Local Similarity 6.0%; Pred. No. 0.0006;
Matches 25; Conservative 213; Mismatches 177; Indels
                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DARA:
APPLICATION NUMBER: US/08/232,463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30472/114 IMMU
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: FOLGY & Lardner
STREET: 1800 Diagonal Road, Suite 500
CITY: Alexandria
                                                                                                                                                                                                                                                                                                                                                                                                                                                          EP 91 114 300.6
                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/935,313
                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: EP 91 114
FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: BERT, Stephen A.
REGISTRATION NUMBER: 29,768
REPRENCE/POCKET NUMBER: 3047;
TELECHONE: (703)836-9300
TELEPAX: (703)8836-9300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEX: 899149
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 7218 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TOPOLOGY: linear; IMMEDIATE SOURCE: CLONE: pTZgpt-F1s US-08-232-463-14
                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                              COUNTRY:
                                                                                                  CITY:
STATE:
```

g ò g ŏ qq ŏ q ŏ qq

g ò

7;

```
STREET: 1100 New York Avenue, Suite 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION
TELEPHONE: (202) 371-2500
TELEPAX: (202) 371-2540
INFORMATION FOR SEQ ID NO. 7:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2363 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 48.0
Matches 98; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                      Washington
                                                                                               U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: both
                                                                                                                          20005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
US-07-923-724-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-609-426A-7
                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1016 CTCCTTTGGCCTATTCTACAAGCCCAGCCAGATGCAGGGGAGGAGGAGGAGGTCCCCCAGT 1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA sequence encoding Human GM_CSF receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Nevalainen, Helena K.M.
APPLICANT: Paloheimo, Marja T.
APPLICANT: Miettinen-Clinonen, Arja S.K.
APPLICANT: Miettinen-Clinonen, Arja S.K.
APPLICANT: Cantrell, Michael
APPLICANT: Plddington, Christopher S.
APPLICANT: Rambosek, John A.
APPLICANT: Turunen, Marja K.
APPLICANT: Fagerstr m. Richard B.
TITLE OF INVENTION: Production of Phytase Degrading Enzymes
TITLE OF INVENTION: In Trichoderma
NUMBER OF SEQUENCES: 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 3475;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                37; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    / Match 2.9%; Score 35.8; DB 2; Local Similarity 61.1%; Pred. No. 0.61; hes 58; Conservative 0; Mismatches 37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 66
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sterne, Kessler, Goldstein & Fox
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1076 GCTGAGGGAGGGCTCGGCAGCCTCCACACCAGGC 1110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    851 gctgctggagatggagggctgcatgcccccgaagc 885
                                                                                                                                                                                                    COMPUTER READABLE FURM:
MEDIUM TYPE: IPOPPY DISC
COMPUTER: Apple Macintosh
OPERATING SYSTEM: System Software 7.1
SOFTWARE: MICTOSOFT WORD 5.1a
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/960,389
FILING DATE: 07.2NN-1993
CLASSIFICATION WOMBER: 554,745
FILING DATE: 18-UU-1990
APPLICATION NUMBER: 554,745
FILING DATE: 16-JUL-1991
ATTORNEY/AGENT INFORMATION:
NAME: Blasdale, John H. C.
RECISTRATION NUMBER: 31,895
REFERENCE/DOCKET NUMBER: DX0143Q
TELECOMMUTCATION HUMBER: DX0143Q
TELECOMMUTCATION HUMBER: DX0143G
CORRESPONDENCE ADDRESS:
ADDRESSEE: Schering-Plough Corporation
STREET: 2000 Galloping Hill Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 7, Application US/07923724
Patent No. 5780292
GENERAL INFORMATION:
APPLICANT: Nevalainen, Helena K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: nucleotides
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                 COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; FEATURE:
; OTHER INFORMATION:
US-07-960-389-1
                                                                                   Kenilworth
New Jersey
XY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGINAL SOURCE:
                                                                                                                                                                         07033
                                                                                                                 STATE: Ne
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-07-923-724-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
```

```
1049 CTGAAGGATCCTCGTGCCCAGCGGGCCAATCGTCGCCCAAGATCGACGTGGTCATTTCC 1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            312 atgaaaaccatccgtctgccacgctggctggcctcgcccaaaggagatccaggttaaa 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          372 aagtacaagtgtggcctcatcaagccctgcccagccaactactttgcgtttaaaatctgc 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          252 gocotcatotttgccatagtcacgacatggatgtttattcgaagctacatgagcttcage 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2.8%; Score 34.4; DB 2; Length 2363;
48.0%; Pred. No. 1.3;
tive 0; Mismatches 106; Indels 0
                                                                       SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/923,724
FILING DATE: 31-JUL-1992
CLASSIFICATION: 435
                                                                                                                                                                                             PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US 07/496,155
FILING DATE: 19-MAR-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/044,077
FILING DATE: 29-APR-1987
PRIOR APPLICATION DATA:
APPLICATION NUMBER: UK 8610600
FILING DATE: 30-APR-1986
ATTORNEY/AGENT INFORMATION:
RGISTRATION NUMBER: 33-851
RGISTRATION NUMBER: 33-851
REFERENCE/DOCKET NUMBER: 1050.0240004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nevalainen, Helena K.M.
Paloheimo, Marja T.
Miettinen-Olnonen, Arja S.K.
Torkkeil, Tuula K.
Cantrell, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
join(404..447, 550..1906)
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1169 GAATTGGCCGATACCGTCGAAGCC 1192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 7, Application US/08609426A Patent No. 5830733 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                432 agtggggccgccaacgtcgtgggc 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
```

```
APPLICANT: PALOHEIMO, MARUA T.
APPLICANT: FEGERSTROM, RICHARD B.
APPLICANT: MIETTINEN-OINONEN, ARJA S.
APPLICANT: MIETTINEN-OINONEN, ARJA S.
APPLICANT: MIETTINEN-OINONEN, ARJA S.
APPLICANT: PIDDINGTOM, CHRISTOPHER S.
APPLICANT: PIDDINGTOM, CHRISTINE S.
APPLICANT: HOUSTON, CHRISTINE S.
APPLICANT: HOUSTON, CHRISTINE S.
APPLICANT: CANTRELL, MICHAEL A.
TITLE OF INVENTION: RECOMBINANT CELLS, DNA CONSTRUCTS,
TITLE OF INVENTION: VECTORS AND METHODS FOR EXPRESSING PHYTATE DEGRADING
TITLE OF INVENTION: ENZYMES IN DESIRED RATIOS
NUMBER OF SEQUENCES: 94
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1005 GGCTCCAGCCGCGTATCGCCTCCGGCGAAATTCATTGAGGGCTTCCAGAGCACCAAG 1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          252 gocottoatotttgocatagtcacgacatggatgtttattcgaagctacatgagcttcagc 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2.8%; Score 34.4; DB 3; Length 2379; 48.0%; Pred. No. 1.3; tive 0; Mismatches 106; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C. 1100 NEW YORK AVENUE, SUITE 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READBALE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CONTENT AFTLICATION NAMES: US/08/374,652C FILING DATE: 24-MAY-1995 CLASSIFICATION A435 CLASSIFICATION DATA: APPLICATION NUMBER: PCT/US93/07058 FILING DATE: 27-JUL-1993 CLASSIFICATION NUMBER: DCT/US93/07058 PILING DATE: 31-JUL-1993 CLASSIFICATION NUMBER: US 07/925,401 FILING DATE: 31-JUL-1992 CLASSIFICATION 435 ATTORNEY/AGENT INFORMATION: NAME: REED, GRANT E. NAME: REED, GRANT E. NUMBER: 41,264 DATONAL PROPERTY OF THE PROPERTY 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1050.071001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               join(404..447, 550..1906)
                                                                                                                                                                                                                                                                          NEVALAINEN, HELENA K.M.
   1169 GAATTGGCCGATACCGTCGAAGCC 1192
                                                                                                                                                                Sequence 1, Application US/08374652C
Patent No. 5834286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-2600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: 202-371-2540 INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 2379 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 2.8%
Best Local Similarity 48.0%
Matches 98; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 202-371-2540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: nucleic acid
STRANDEDNESS: both
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-374-652C-1
                                                                                                   RESULT 8
US-08-374-652C-1
                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET:
CITY: WA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1049 crgaaggarccrcgrgcccagccgggccaarcgrcgcccaagarcgacgrgrgrrrrcc 1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             372 aagtacaagtgtggcctcatcaagccctgcccagccaactactttgcgtttaaaatctgc 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   252 gocotcatctttgccatagtcacgacatggatgtttattcgaagctacatgagcttcagc 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      312 atgaaaaccatccgtctgccacgctggctggcctcgcccaccaaggagatccaggttaaa 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2.8%; Score 34.4; DB 3; Length 2363;
48.0%; Pred. No. 1.3;
tive 0; Mismatches 106; Indels 0
                                APPLICANT: Rambosek, John A.
APPLICANT: Turunen, Marja K.
APPLICANT: Fagerstr m. Richard B.
APPLICANT: Houston, Christine S.
TITLE OF INVENTION: Production of Phytase Degrading Enzymes
NUMBER OF SEQUENCES: 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FUGNE:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPOTER: IBM PC compatible
CORPETAING SYSTEM: PC-DOS/MS-DOS
SOCTIVARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/609,426A
FILING DATE: 01-MAR-1996
CLASSIFICATION NUMBER: US 07/923,724
FILING DATE: 31-JUL-1992
PRIOR APPLICATION NUMBER: US 07/496,155
FILING DATE: 31-JUL-1992
PRIOR APPLICATION NUMBER: US 07/44,077
FILING DATE: 19-MAR-1990
PRIOR APPLICATION NUMBER: US 07/044,077
FILING DATE: 30-APR-1986
ATTORNEY/AGENT INFORMATION:
NAMME: Reed, Grant E.
REGISTRATION NUMBER: 1050.0080001
FILING DATE: 30-APR-1986
ATTORNEY/AGENT INFORMATION:
TELECOMMUNICATION NUMBER: 1050.0080001
TELERDANCE: (202) 371-2500
TELERDANCE: (202) 371-2500
INFORMATION FOR THE DOWN TO T:
SEQUENCE CHRARACTERISTICS:
TEMPGATICS TOWN TO T:
SEQUENCE CHRARACTERISTICS:
                                                                                                                                                                                                                                                                                                          E: Sterne, Kessler, Goldstein & Fox 1100 New York Avenue, Suite 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
join(404..447, 550..1906)
Piddington, Christopher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        432 agtggggccgccaacgtcgtgggc 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 48.0
Matches 98; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: both
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                  Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                       TRY: U.S.A.
20005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; NAME/KEY;
; LOCATION;
US-08-609-426A-7
                                                                                                                                                                                                                                                                                                                 ADDRESSEE:
STREET: 1
                                                                                                                                                                                                                                                                                                                                                                                                       STATE: D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
```

g ò 셤 δ

0; Gaps

42; Indels

Mismatches

ö

Conservative

26;

```
829 acaaatacgagggatggccagagctgctggagatggaggctgcatgcccccgaagccat 888
                                                                                 889 tttagggtggctgtggctcttcctcagccaggggcctgaag 929
                                                                                                                                                            463 TITCGCGTCACTATCACTAGAACTAGAAGAGGTCACAGTAG 423
       Matches
                                                                                                                                                                                                                   RESULT
                                                                               g
                                                                                                                      ð
                                                                                                                                                        g
                                     1065 CTGAAGGATCCTCGTGCCCAGCCGGCCAATCGTCGCCCAAGATCGACGTGGTCATTTCC 1124
                                                                                                    312 atgaaaaccatccgtctgccacgctggcttggctcgcccaccaaggagatccaggttaaa 371
                                                                         372 aagtacaagtgtggcctcatcaagccctgcccagccaactactttgcgtttaaaatctgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER EADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Floppy disk
COMPUTER: Floppy disk
COMPUTER: TBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/294,189
FILING DATE: 22-AUG-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Jackson Esq., David A.
REGISTRATION NUMBER: 26,742
RESERRENCE/POCKET UNBER: 600-1-118
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFRAM: 201 487-5800
                                                                                                                                                                                                                                                                                                                                          APPLICANT: Fischetti, Vincent A.
APPLICANT: Rakonjac, Jasna
APPLICANT: Robbins, John
TITLE OF INVENTION: GENE SERUM OPACITY FACTOR
WIMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESSEE: Klauber & Jackson
                                                                                                                                                                                                                                                                                                                                                                                                                                 ....orkSSEE: Klauber & Jackson
STREET: All Hackensack Avenue
CITY: Hackensack
STATE: New Jersey
COUNTRY: USA
ZIP: 07601
                                                                                                                                                                                       1185 GAATTGGCCGATACCGTCGAAGCC 1208
                                                                                                                                                    432 agtggggcgccaacgtcgtgggc 455
                                                                                                                                                                                                                                                                                      Sequence 2, Application US/08294189 Patent No. 5707822 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: DNA (genomic)
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: -35_signal
LOCATION: 34..39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 3240 hac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -10_signal
57..62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
113..3190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RBS
104..108
                                                                                                                                                                                                                                                                 US-08-294-189-2/C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; LOCATION:
US-08-294-189-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                          g
                                                                             ð
                                                                                                                                                    õ
```

DB 2; Length 3240;

Score 33.8; DI Pred. No. 2.3;

2.8%;

Query Match Best Local Similarity

```
ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62 ggaggtgggactgtcagaagctggcccagggtggtggtcagctgggtcagggacctacgg 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 2085;
                                                                              APPLICANT: ADACHI, HIDEKI
APPLICANT: TSUJIMOTO, MASAFUMI
APPLICANT: TSUJIMOTO, MASAFUMI
APPLICANT: TSUJIMOTO, MASAFUMI
APPLICANT: NOUE, KEIZO
APPLICANT: AND ELICANTI ON TITLE OF INVENTION: ON TITLE OF INVENTION: AND GENE THEREOF
UNDHER OF SEQUENCES: 31
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER &
ADDRESSEE: NEGSTADT, P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                     STREET: 1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: FLOPPY disk
COMPUTER: IBM PC Compatible
COMPUTER: IBM PC Compatible
COMPUTER: IBM PC Compatible
COMPUTER: Batentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/283,917
FILING DATE: 03-40G-1994
CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: JP 209943/1993
ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5849557man F.
REGISTRATION NUMBER: 24,618
REFERENCAPOCKET NUMBER: 2292-030-0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 33.6; DB Pred. No. 2.1; 0; Mismatches
                    Sequence 8, Application US/08283917; Patent No. 5849557; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: (703) 413-3000
TELEFAX: (703) 413-220
TELEX: 24865 OPAT UR
INFORMATION FOR SEQ ID NO: 8
SEQUENCE CHARACTERISTICS:
LENGTH: 2085 Dase pairs
TYPE: nucleic acid
STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 2.8%;
Best Local Similarity 56.2%;
Matches 63; Conservative
                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: CDNA
ORIGINAL SOURCE:
ORGANISM: Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDS
844..2073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           unknown
                                                                                                                                                                                                                                                                                                                         CITY: Arlington
STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                      U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE:
US-08-283-917-8/c
                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . LOCATION:
US-08-283-917-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
```

δλ q

```
312 atgaaaaccatccgtctgccacgctggcctggcctcgcccaccaaggagatccaggttaaa 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     372 aagtacaagtgtggcctcatcaagccctgcccagccaactactttgcgtttaaaatctgc 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             544 CTGAAGGATCCTCGTGCCCAGCCCGGCCAATCGTCGCCCAAGATCGACGTGGTCATTTCC 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   252 geceteatetttgecatagteacgaeatggatgtttattegaagetaeatgagetteage 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.7%; Score 33; DB 1; Length 1404; 45.3%; Pred. No. 2.6;
52 GGCCTGTCCCCCCTCCTCCTCTCTCACTCAACGCCCGTCGCGGCCGC 1
                                                                                                                                                                                                                                                                                          Cloning and Expression of Microbial Phytase: 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; ORCANISM: Aspergillus ficuum (Aspergillus niger); STRAIN: NRRL 3135
US-08-151-574-33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29,959
mp. 24615-20026.00
                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Morrison & Foerster
SYREET: 845 Middlefield Road, Suite 200
CITY: Menlo Park
STATE: California
                                                                                                                                                             APPLICANT: Robert F.M. Van Gorcom
APPLICANT: Willem Van Hartingsveldt
APPLICANT: Petrus A. Van Paridon
APPLICANT: Annemarie E. Veenstra
APPLICANT: Rudolf G.M. Luttin
APPLICANT: Gerardus Selten
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/151,574 FILING DATE: CLASSIFICATION: 435 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 07/688,578
FILING DATE: 24-MAY-1991
ATTORNEY/AGENT INFORMATION:
NAME: MALSAHIGE, KALE H.
NEALSTRATION NUMBER: 29,959
REFERENCE/DOCKET NUMBER: 24615-20
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-327-7250
INFORMATION FOR SEQ ID NO: 33:
SEQUENCE CHARACTERISTICS:
                                                                                                      Sequence 33, Application US/08151574 Patent No. 5436156 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: cDNA to mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 1404 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 45.3
Matches 120; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE:
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: CLC TITLE OF INVENTION: Phy NUMBER OF SEQUENCES: 52 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 94025-3471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HYPOTHETICAL: NC
ANTI-SENSE: NO
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: nucleic STRANDEDNESS:
                                                                  RESULT 12
US-08-151-574-33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62 ggaggtgggactgtcagaagctggcccagggtggtggtcagctgggtcagggacctacgg 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 33.6; DB 3; Length 2085; Pred. No. 2.1; 0; Mismatches 49; Indels 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  122 cacctgctggaccacctcgcttctccatcgaagcagggaagtgggagctc 173
                          122 cacctgctggaccacctcgccttctccatcgaagcagggaagtgggagcctc 173
                                                   52 GGCCTGTCCCCCCTCCTCCTCTCACCACGCCGTCGCGGCGCC 1
                                                                                                                                                             Sequence 8, Application US/08961716
Patent No. 5680272
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: ABOUTH, HIDEKI
APPLICANT: TSUJIMOTO, MASATUMI
APPLICANT: ARAI, HIROYUKI
TITLE OF INVENTION: OXIDIZED PHOPHOLIPID DEGRADING ENZYME
TITLE OF INVENTION: AND GENE THEREOF
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                         3: OBLON, SPIVAK, MCCLELLAND, MAIER & 3: NEUSTADT, P.C. 1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPOTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/961,716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFCATION:
PRIOR APPLICATION DATA:
PREDICATION NUMBER: US 08/283,917
FILING DATE: 03-A0G-1994
APPLICATION NUMBER: JP 209943/1993
ATTONEY/AGENT INFORMATION:
NAME: Oblon, NO. 5880272man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 2292-030-0
TELECOMMUNICATION INFORMATION:
TELECHONE: (703) 413-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (703) 413-220
TELERAX: (703) 413-220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 2085 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.8%;
56.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       63; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nucleic acid
EDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
844..2073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE: Virginia COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; NAME/KEY;
; LOCATION:
US-08-961-716-8
                                                                                                                                RESULT 11
US-08-961-716-8/c
```

STREET:

ö

Indels

Query Match

Matches

δ a ò

```
E: MORRISON & FOERSTER
755 PAGE MILL ROAD
                                                                                                                                                                                                                                                                         Sequence 1, Application US/08693709
Patent No. 5770413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; CCATION: Signal Sequence; LOCATION: 1...72 ); OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: DISKette
COMPUTER: IBM COMPATIBLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS: ELNGTH: 1404 base pairs TYPE: nucleic acid STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: Coding Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: mat_peptide LOCATION: 70...1401 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOCATION: 1...1401
OTHER INFORMATION:
NAME/KEY: mat_pept1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM CON OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: 755 PAGE CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: USA
ZIP: 94304-1018
                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                     RESULT 14
US-08-693-709-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STATE:
                                         a
                                                                            ò
                                                                                                             g
                                                                                                                                                 Q
                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
432 agigggccgccaacgicgiggccciaciatgigcittgaagaccgcaigatcaigagi 491
                                  664 GAATIGGCCGATACCGICGAAGCCAATITCACGCCACGIICGICCTCCCICCAIICGICAA 723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         252 geceteatetttgecatagteaegacatggatgtttattegaagetaeatgagetteage 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            484 GCTCCAGCCGCGTGATCGCCTCCGGCAAGAATTCATCGAGGGCTTCCAGAGCACCAAG 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             312 atgaaaaccatccgtctgccacgctggctggcctcgcccaccaaggagatccaggttaaa 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: VAN OOIJEN, ALBERT J. J.
APPLICANT: VAN OOIJEN, ALBERT J. J.
APPLICANT: HOEKEMA, ANDREAS
APPLICANT: HOEKEMA, ANDREAS
APPLICANT: STJMONS, PETER C.
APPLICANT: STJMONS, PETER C.
TITLE OF INVENTION: THE EXPRESSION OF PHYTASE IN PLANTS
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORRISON & FOERSTER
STREET: 755 PAGE Mill Road
CITY: Palo Alto
STREET: California
COUNTY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1; Length 1404;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches 145; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 94304-1018

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
APPLICATION DATA:
APPLICATION NUMBER: US/08/146,424
FILING DATE: 02-NOV-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         44615-20011.24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 33;
Pred. No.
                                                                     492 cctgtgaaaaacaatgtgggcagag 516
                                                                                                       724 CGTCTGGAGAACGACCTGTCCGGTG 748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: KENNEDY, BILL
REGISTRATION NUMBER: 33,407
REFRENCE/DOCKET NUMBER: 4461:
TELECOMMUNICATION INFORMATION:
TELEFAX: (415) 494-0792
TELEX: 706141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: 19: SEQUENCE CHARACTERISTICS: LENGTH: 1404 base pairs TYPE: nucleic acid STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 2.79
Best Local Similarity 45.39
Matches 120; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mat_peptide
70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1..1401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; LOCATION:
US-08-146-424-19
 õ
                                    a
                                                                                                     g
                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               å
```

```
372 aagtacaagtgtggcctcatcaagccctgcccagccaactactttgcgtttaaaatctgc 431
                                           604 GAGGCCAGCTCATCCAACAACACTCTCGACCCAGCACCTGCACTTCGAAGACAGC 663
                                                                                                                       432 agtggggccgccaacgtcgtgggccctactatgtgctttgaagaccgcatgatcatgagt 491
                                                                                                                                                                                          664 GAATTGGCCGATACCGTCGAAGCCAATTTCACCGCCACGTTCGTCCCCTCCATTCGTCAA 723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/693,709
FILING DATE: 07-AUG-1996
CLASSIFRCATION: 800
PRICATION NUMBER: 08/146,424
FILING DATE: 07-NOV-1993
ATONNEY/AGENT INFORMATION:
NAME: MUTSAHIGO, Kate H
REGISTRATION NUMBER: 29,959
RECISTRATION NUMBER: 29,959
TELECHONE: 415-4194-0792
TELECHONE: 415-494-0792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: VAN OOIJEN, ALBERT J.J.
APPLICANT: REETVELD, KRLJN
APPLICANT: HOEKEMA, ANDREAS
APPLICANT: PEN, JAN
APPLICANT: SIJMONS, PETER C.
APPLICANT: VENGRED, TEUNIS C.
APPLICANT: VENGRED, TEUNIS C.
APPLICANT: VENGRED, TEUNIS C.
APPLICANT: VENGRED, PETER C.
APPLICANT: VENGRED, PETER C.
APPLICANT: VENGRED, PETER C.
APPLICANT OF INVENTION: IN PLANTS
                                                                                                                                                                                                                                                  492 cctgtgaaaaacaatgtgggcagag 516
                                                                                                                                                                                                                                                                                                              724 cercresasasceaccrercesere 748
```

us-09-186-342-1.rni

```
ö
                                                                                                                                                                      312 atgaaaaccatccgtctgccacgctggctggcctcgcccaaggagatccaggttaaa 371
                                                                                                                                                                                                 372 aagtacaagtgtggcctcatcaagccctgcccagccaactactttgcgtttaaaatctgc 431
                                                                                                                                                                                                                                                                                    604 GAGGCCAGCTCCAACAACACTCTCGACCCAGGCACTGCATGTCTTCGAAGACAGC 663
                                                                                                                                                                                                                                                                                                                                            432 agtggggccgccaacgtcgtgggccctactatgtgctttgaagaccgcatgatcatgagt 491
                                                                                       252 gocotcatotttgocatagtcacgacatggatgtttattcgaagctacatgagcttcagc 311
                                                                                                                             484 GGCTCCAGCCGCGTGATCGCCTCCGGCAAGAATTCATCGAGGGCTTCCAGAGCACCAAG 543
                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                       664 GAATTGGCCGATACCGTCGAAGCCAATTTCACCGCCACGTTCGTCCCTCCATTCGTCAA
                                               ö
  Length 1404;
Score 33; DB 2; Length 140.
Pred. No. 2.6;
0; Mismatches 145; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Willem Van Hartingsveldt
APPLICANT: Petrus A. Van Paridon
APPLICANT: Annemarie E. Veenstra
APPLICANT: Rudolf G.M. Luttin
APPLICANT: Gerardus Selten
TITLE OF INVENTION: Cloning and Expression of Microbial
TITLE OF INVENTION: Phytase
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Morrison & Foerster
STREET: 2000 Pennsylvania Ave. N.W., Suite 5500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATORNEZ/AGENT INFORMATION:
NAME: MUTASAIGE, KECH H.
REGIGTRATION NUMBER: 29,959
REFERRUCE/DOCKET NUMBER: 24615-20026.10
TELECOMMUICATION INFORMATION:
TELECHNONE: 202-887-1500
INFORMATION FOR SEQ ID NO: 33:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/419,448
FILING DATE: 10-APR-1995
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 15
US-08-419-448-33
; Sequence 33, Application US/08419448
; Patent No. 586353
; GENERAL INFORMATION;
APPLICANT: Robert F.M. Van Gorcom
                                                                                                                                                                                                                                                                                                                                                                                                                                      492 cctgtgaaaaacaatgtgggcagag 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               724 CGTCTGGAGAACGACCTGTCCGGTG 748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AOLECULE TYPE: CDNA tO MRNA HYPOTHETICAL: NO
vuery Match 2.7%;
Best Local Similarity 45.3%;
Matches 120; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: USA
ZIP: 20006-1888
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 1404 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ANTI-SENSE: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: STATE:
                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                         ö
                                                                                                                                                                             ò
                                                                                                                                                                                                                                                           Ω
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                604 GAGGCCAGCTCATCCAACACTCTCGACCCAGGCACCTGCACTGTCTTCGAAGACAGC 663
                                                                                                                                                                                                                                                                                                                                                                                                                         432 agtggggccgccaacgtcgtgggccctactatgtgctttgaagaccgcatgatcatgagt 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                          664 GAATIGGCCGAIACCGICGAAGCCAATITCACCGCCACGITCGICCCCTCCATCGICAA 723
                                                                                                                                                                                 252 gocotcatotttgccatagtcacgacatggatgtttattcgaagctacatgagcttcagc 311
                                                                                                                                                                                                                                                                312 atgaaaaccatccgtctgccacgctggctggcctcgcccaccaaggagatccaggttaaa 371
                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                               372 aagtacaagtgtggcctcatcaagccctgcccagccaactactttgcgtttaaaatctgc
                                                                                                                                              ö
                                                                                                         DB 3; Length 1404;
                                                                                                       Score 33; DB 3; Length 140
Pred. No. 2.6;
0; Mismatches 145; Indels
; ORGANISM: Aspergillus ficuum (Aspergillus niger)
; STRAIN: NRRL 3135
US-08-419-448-33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Search completed: May 31, 2000, 19:14:15 Job time: 6253 sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            492 cctgtgaaaaacaatgtgggcagag 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGTCTGGAGAACGACCTGTCCGGTG 748
                                                                                                       Query Match 2.7%;
Best Local Similarity 45.3%;
Matches 120; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 724
                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                               ò
```

_			
•			
l			

OM nucleic

Run on:

Searched:

Database

Sequence:

```
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                          em_est31:*
em_est32:*
em_est43:*
em_est44:*
gb_est46:*
gb_est47:*
gb_gss1:*
gb_est26:*
gb_est27:*
gb_est29:*
gb_est30:*
gb_est31:*
gb_est31:*
em_est20:*
em_est21:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      %
Query
                                                                                                                                                                                                                                                                                                                                                      992:
993:
995:
995:
1000:
1001:
1023:
104:
1065:
1066:
1086:
Result
                                                  May 31, 2000, 16:54:03; Search time 799.5 Seconds (without alignments) 6190.101 Million cell updates/sec
                                                                                                1 egecegggeaggttgeatet.....aaattttatttttgetggta 1221
                                                                                                                                                   9714632
        GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                   Notal number of hits satisfying chosen parameters:
                                                                                                                                    4857316 segs, 2026611650 residues
                                                                                                                                                                                      Post-processing: Minimum Match 0%
Listing first 45 summaries
                                    nucleic search, using sw model
                                                                                                              IDENTITY_NUC Gapox 10.0
                                                                                                                                                                                                                                                                                                                  em_est14:;
em_est15:;
em_est17:;
em_est110:;
gb_est2:;
gb_est2:;
gb_est5:;
gb_est5:;
gb_est5:;
gb_est6:;
gb_est6:;
gb_est6:;
gb_est6:;
gb_est7:;
gb_est8:;
gb_est8:;
                                                                              US-09-186-342-1
1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                       gb_est13:*
gb_est14:*
gb_est15:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gb_est17:*
gb_est18:*
gb_est19:*
gb_est20:*
                                                                                                                                                                                                                                                                                                     em_est12:*
em_est13:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gb_est21:*
gb_est22:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gb_est16:*
                                                                                                                                                                                                                                                                                       em_est10:*
                                                                                                                                                                                                                                                                                              em_est11:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                gb_est12:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gb_est24:*
gb_est25:*
                                                                                                                                                                 Minimum DB seq length: 0
Maximum DB seq length: 1000000
                                                                                                                                                                                                                    em_est1:*
em_est2:*
em_est4:*
em_est6:*
em_est7:*
em_est7:*
em_est8:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gb_est23
                                                                                                                                                                                                             ESI:*
                                                                                                                                                                                                                                                                                                                    Title:
Perfect score:
                                                                                                               Scoring table:
```

gb_gss2:* gb_gss3:* gb_gss4:*

em_gss1:* em_gss2:* em_gss3:* em_gss4:*

gb_gss5:* gb_gss6:* gb_gss7:*

gb_gss8: em_gss5: em_gss6: em_gss7: em_gss8: em_gss8:

em_est30:* gb_est39:* gb_est40:* gb_est41:*

9b_est35:*
9b_est36:*
9b_est37:*
9b_est38:*
em_est27:*
em_est28:*

em_est23:* em_est24:* em_est25:*

em_est22:

gb_est33:* gb_est34:*

em_est26:*

gb_est42:* gb_est43:* gb_est44:*

SUMMARIES

em_gss10:*
em_gss11:*
gb_gss10:*
gb_gss11:*

em_gss12:*
gb_gss12:*
gb_gss13:*
gb_gss14:*
gb_gss16:*

	xk05g02	wu27e06	wf22c03	wo61	np76c04	gk45b04	nk23h02	002900	1400	INTEGO	TOTECT	nq56b03	wu28c10	of01b11	np21f04	nk04h09	we68b05	wz21e07	nn35b01	W1145d09	n196f08	nf61e13	of64c07	nf61e11	79008	5b1	nf92e04	ne12h10	ze84f10	EST1127	ne12h10	AI732198 ne12h10.x	ar98b03	EST11	EST1141	at32a08	vo89f11	AW315283 12472 MAR	ze84f1	vf86h07	fc60e01	104	vr96e04	12597 M	168405 r1	2284 vil9a0
	AW300770	AW001287	A1691072	AI936111	AA622758	AI245950	AA563933	A1348065	AA552519	0400014	20010014	AAGZIZU	AWOULSUB	AA84 / 24 2	AA622570	AA552362	AI660557	AW050790	AA582787	AW000826	AA643708	AI732367	AA857546	AA514424	AA643616	AI673534	AA543029	AI821215	AA025434	AA297147	AA470683	AI732198	AI582013	AA297176	AA298484	AI749731	AA611725	AW315283	AA025433	AA451058	AI883327	AW323823	AA793766	AW315346	N41338	N
;	73	9	20	62	36	44	35	45	35	2	2 0	9 (200	י נע	9 1	ς ·	4.9	64	35	63	36	21	39	34	36	20	32	61	27	31	34	51	48	31	31	21	36	80	27	33	62	80	38	80	24	34
1 1 1 1	645	9 0	oT9	646	564	238	518	498	294	20.5	0 0	010	7	404	407	404	455	230	417	443	396	375	434	360	364	358	325	321	337	306	301	302	289	268	417	249	461	379	377	387	778	525	264	311	410	509
	51.2	20.0	9.0	40.6	44.1	42.8	42.4	40.8	40.7	40.6		,	0.00	0.0	4.74	200 000 000	30.8	34.7	32.9	32.9	30.4	30.3																				14.8				12.4
	624.8	070	0.000	208.4	238	577.7	518	498	496.8	495 4	40.4	70.10	0.1/*	* (400.7	4.4	4.4	424	402	401.8	371.4	370	356.4	355	355	352	320.8	310.4	307	302	286	283.8	274.4	267	256.2	246	230	223	216.2	209.4	181	180.6	176.8	160.8	151.6	151.4
,	٦,	4 c	ე -	c P (n i	۰	7	œ	6	10		1.5	7 .	7 .	* L	0 4	01	<u> </u>	8	19	20												32	e :	34		9	3.7	9.	5 .	9	41	2	13	14	5
															٠.		. ,		•	٠.		- •	- •	٠,		• •	٠.	• •	٠.	٠.,									• • •	· .	4	4.	₹	-		4

```
RESULT 1
AW300770,c
LOCUS
DEFINITION
AK030070
AW300770
AW300770
AK03002.x1 NCI_CGAP_CO19 Homo sapiens CDNA clone IMAGE:2665874 3'
ACCESSION
AW300770
AW300770
AW300770
AW300770
AW300770
AW300770
AW300770
BETT
AW300770
AW300770
AW300770
BETT
AW300770
AW300770
AW300770
BETT
AW300770
AW300770
BETT
AW300770
AW300770
AW300770
BETT
AW300770
AW300770
AW300770
BETT
AW300770
AW300770
AW300770
BETT
AW300770
AW300770
AW300770
AW300770
BETT
AW300770
AW3
```

```
/organism="Homo sapiens"
/db_xref="taxon:9606"
/db_xref="taxon:9606"
/clone="IMAGE:266897"
/clone=!b="KOI_CGAP_CO19"
/tissue_type="moderately differentiated adenocarcinoma"
/tissue_type="moderately differentiated"
/tissue_t
Tissue Procurement: Christopher A. Moskaluk, M.D., Ph.D., Michael R. Emmert-Buck, M.D., Ph.D. cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: Christa Prange, The I.M.A.G.E. Consortium DNA Sequencing by: Washington University Genome Sequencing Center Clone distribution: NCI-CGAP clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Library constructed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gacatgtactctggagatgttatgcacctagtgaaattccttaaagaaattccggggggt 635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gcactggtgctggtggcctcctacgacgatccagggaccaaaatgaacgatgaaagcagg 695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        876 cccccgaagccattttagggttggctgtggctcttcctcagccaggggcctgaagaagctc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             816 agcccagacacaaacaaatacgaggatggccagagctgctggagatggagggctgcatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 79; Length 645;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                         Possible reversed clone: polyT not found Seq primer: -40UP from Gibco High quality sequence stop: 403.
Location/Qualifiers
1. 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 51.2%; Score 624.8; DB 79
98.0%; Pred. No. 3.9e-160;
Live 0; Mismatches 13;
                                                                                                                                                                                                      www-bio.llnī.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity
Matches 632; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    105
                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

٨

```
human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AI691072/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        127
                                                                                                                                                                                                                                                                                     862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1161
                                                                                                                                                          802
                                                                                                                                                                                                                                                                                                                                                                                                                     922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                g
                                                                                                                                                             ð
                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                     ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               double-stranded CDNA was ligated to ECO RI adaptors
(pharmacia), digested with Not I and cloned into the Not I
and ECO RI sites of the modified pTTT3 vector. Library
went through one round of normalization. Tissue samples
provided by Dr. Brian Dieckgraefe (Washington University
dieckfim.wustl.edu); colonic mucosa represents a range of
disease involvement from moderate to severe Crohn's
disease; samples include both perforating (fistulas) and
non-perforating samples. Library constructed by Bento
Soares and M. Fatima Bonaldo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ü
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 668)

NoI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.

National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tunor Gene Index

On May 9, 1996 this sequence version replaced gi:1132811.

Contact: Robert Strausberg Ph.D.

Tel: (301) 496-1550

Email: Robert_Strausbergfanh.gov
This clone is available royalty-free through LLNL; contact the IMAGE Consortium (infociminge.llnl.gov) for further information.

Seq primer: 400P from Gibb.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1..668
//doganism="Homo sapiens"
//do_xref="taxon:9606"
/clone="IMAGE:2521282"
/clone="IMAGE:2521282"
/tissue=_type="colonic mucosa from 3 patients with Crohn's disease"
                                                                                                                                                                                                                         AW001287 668 bp mRNA EST 27-OCT-1999 wu27e06.X1 Soars_Dieckgraefe_colon_NHCD Homo sapiens Colone IMAGE: 2521282 3' similar to SW:EF07_MOUSE P97805 PROTEIN EF-7 ;contains MSR1.t2 MER22 repetitive element ;, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        562 gacagaaggcatttgacatgtactctggagatgttatgcacctagtgaaattccttaaag 621 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aaatteegggggggggeaetggtgetggtggeeteetaegaegateeagggaeeaaatga 681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       682 acgatgaaagcaggaaactcttctctgacttggggagttcctacgcaaaacaactgggct 741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            50.5%; Score 616; DB 63; Length 668; 96.8%; Pred. No. 1e-157;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      High quality sequence stop: 478. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                          AW001287.1 GI:5848203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 50.59
Best Local Similarity 96.83
Matches 639; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          142
                                                                                                                                                                                                                                                                                                                                                               AW001287
                                                                                                                                                                                                                                                                                                                                                                                                                           EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                RESULT 2
AW001287/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
          1176
                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                  qq
```

```
/lab_host="DH10B (phage-resistant)"
/note="Organ: colon; Vector: pTT3D-Pac (Pharmacia) with a modified polylinker: Site_l: Not I: Site_2: Eco RI; lst strand cDNA was primed with a Not I - oligo(dT) primer [5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AI691072 615 bp mRNA EST 18-DEC-1999 wf22c03.xl Soares_Dieckgraefe_colon_NHUC Homo sapiens cDNA clone IMAGE:2351332 3' similar to SW:EF07_MOUSE P97805 PROTEIN EF-7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 615)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tumor Gene Index
Unpublished (1997)
On Dec. 20, 1995 this sequence version replaced gi:1134301.
Contact: Robert Strausberg, Ph.D.
Tel: (301) 496-1550
Email: Robert_Strausberg@nih.gov
This clone is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information.
Insert Length: 893 Std Error: 0.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone_lib="Soares_Dieckgraefe_colon_NHUC"
/tissue_type="colonic mucosa from 5 ulcerative colitis
                                                                                                                                                                                                                                                                                                                                                                             1101 ttctggaaccagctgtctgtggagagaatggggtgctttcgtcagggactgctgacggct 1160
                                                                                                                                                                                                                                                                                   980
                                                                                                                                                                                                                                                                                                                                   248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITIGGAACCAGCIGICIGIGGAGAAIGGGGIGCITICGICAGGGACIGCIGACGGCI
                                                                                                                                                                                                                                                                                                               tggagggctgcatgcccccgaagccattttaggggtggctgtggctcttcctcagccaggg
                                                                                                                                                                                                                   gcctgaagaagctcctgcctgac-ttaggagtcagagcccggcaggggctgaggagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:2351332"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Seq primer: -400P from Gibco
High quality sequence stop: 476.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mRNA sequence.
A1691072
A1691072.1 GI:4902374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 patients
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
```

```
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local
                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            405
                                       AUTHORS
                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  697
                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       817
                                                TITLE
                                                                                                                                                                                                                                                 FEATURES
                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
      double-stranded CDNA was ligated to ECO RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and ECO RI sites of the modified pT/T3 vector. Library went through one round of normalization. Tissue samples provided by Dr. Brian Dieckgraefe (Washington University, dieck@im.wustl.edu); colonic mucosa represents a range of disease involvement from mild cryptilis to severe disease involvement from mild cryptilis to severe dibrorsis, and degeneration. Library constructed by Bento Soares and M. Fatima Bonaldo. "
                                                                                                                                                                               ö
A1936111 646 bp mRNA EST 02-SEP-1999 wo61h03.x1 NCI_CGAP_PY22 Homo sapiens CDNA clone IMAGE:2459861 3' similar to SW:EF07_MOUSE P97805 PROTEIN EF-7; mRNA sequence. A1936111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tgaggaggaggagcagggggggctgcgtggaaggtgctgcaggtccttgcacgctgtgtc 1029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tcagagggtccttctggaaccagctgtctgtggagagaatggggtgctttcgtcagggac 1149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aattoottaaagaaattoogggggggggcactggtggtggcgtootacgacgatooag 669
                                                                                                                                                                                                                          555
                                                                                                                                                                                                                                                                                          789
                                                                                                                                                                                                                                                                                                               435
                                                                                                                                                                                                                                                                                                                                     849
                                                                                                                                                                                                                                                                                                                                                          375
                                                                                                                                                                                                                                                                                                                                                                               606
                                                                                                                                                                                                                                                                                                                                                                                                    315
                                                                                                                                                                                                                                                                                                                                                                                                                         696
                                                                                                                                                                                                                                                                                                                                                                                                                                                255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     254 TGAGNAGCAGAGCGAAGGGGGGGGCTGCTGGAAGGTGCTGCAGGTCCTTGCACGCTGTGTC 195
                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                          cctcagccaggggcctgaagaagctcctgcctgacttaggagtcagagcccggcagggggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          134 TCAGAGGGTCCTTCTGGAACCAGCTGTCTGTGGAGAATGGGGGTGCTTTCGTCAGGGAC
                                                                                                                                                                              ;
0
                                                                                                                                                        DB 50; Length 615;
                                                                                                                                                                              Indels
                                                                                                                                                     48.8%; Score 595.6; DB 50.
llarity 98.2%; Pred. No. 3.6e-152;
Conservative 0; Mismatches 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AI936111.1 GI:5674981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1210 tttttgctggta 1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | | ||||||||
TATATGCTGGTA 3
                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                            122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human.
                                                                                                                                                                         601;
                                                                                                                                                        Query Match
                                                                                                                                                                 Local
                                                                                                                                                                Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCUS
DEFINITION
                                                                                                           BASE COUNT
                                                                                                                                                                                                610
                                                                                                                                                                                                                                                                                                                                                                                                                       910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AI936111/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
SOURCE
                                                                                                                     ORIGIN
                                                                                                                                                                                                 ò
                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

```
I. (Dazes 1 to 0.040)

Notional Cancer Institute, Cancer Genome Anatomy Project (CGAP),
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
Tumor Gene Index

Tumor Gene Index

Uppublished (1997)
On May 18, 1998 this sequence version replaced gi:3138334.
Contact: Robert Strausberg@ih.gov
Tissue Procurement: Michael J. Brownstein, M.D., Ph.D., Michael R.
Email: Robert_Strausberg@ih.gov
Tissue Procurement: Michael J. Brownstein, M.D., Ph.D.,
CDNA Library Preparation: M. Bento Soares, Ph.D.
CDNA Library Prazayed by: Greg Leonnon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="Organ: prostate; Vector: p1773D-Pac (Pharmacia)
with a modified polylinker: 1st strand cDNA was prepared
from normal prostate bulk tissue, and was then primed with
a Not I: -oligo(dI) primer. Double-stranded cDNA was
ligated to Eco RI adaptors (Pharmacia), digested with Not
I and cloned into the Not I and Eco RI sites of the
modified p1773 vector. Library is normalized, and was
constructed by Bento Soares and M. Fatima Bonaldo. "
188 c 163 g 161 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
      Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   577 acatgtactotggagatgttatgcacctagtgaaattccttaaagaaattccggggggtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tgcctgacttaggagtcagagccggcaggggtctgaggaggaggagcaggggtgctgcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cactggtgctggtggcctcctacgacgatccagggaccaaaatgaacgatgaaagcagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aactcttctctgacttggggagttcctacgcaaaacaactgggcttccgggacagctggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          646;
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                    Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 646)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              46.6%; Score 568.4; DB 65
ilarity 92.8%; Pred. No. 9.9e-145;
Conservative 0; Mismatches 46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /tissue_type="normal prostate"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                               ww-bio.llni.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone_lib-"NCI_CGAP_Pr22"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:2459861"
                                                                                                                                                                                                                                                                                                                                                                                                                                        Seq primer: -40UP from Gibco
High quality sequence stop: 438.
Location/Qualiflers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 596;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
```

ï

Gaps

842

386 902 326 962 266

782 446

```
Contact: Robert Strausberg, Ph.D.
Tel. (301) 496-1550
Endil: Robert Strausberg@nih.gov
Endil: Robert_Strausberg@nih.gov
Endil: Robert_Strausberg@nih.gov
Endil: Robert_Strausberg@nih.gov
Endil: Robert_Strausberg@nih.gov
Ennert-Buck, M.D., Ph.D.
CDNA Library Preparation: M. Bento Soares, Ph.D.
CDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eutheria; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases to 530)

NCI-GGAP http://www.ncbi.nlm.nih.gov/ncicgap.

National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Thunc Gene Index

Unpublished (1997)

On Jan 19, 1998 this sequence version replaced gi:2152876.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GST 28-JAN-1999 (9K45b04.x1 NCL_CGAP_CO8 Homo sapiens CDNA clone IMAGE:1871887 3' similar to TR:P97805 P97805 EF-7 j/mRNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1143 cagggactgctgacggctggtcctgaggaaggacaaactgcccagacttgagcccaatta 1202
                                                                                                 663 gatccagggaccaaaatgaacgatgaaagcaggaaactcttctctgacttggggagttcc
                                                                                                                        723 tacgcaaaacaactgggcttccgggacagctgggtcttcataggagccaaagacctcagg
                                                                                                                                                                                              325 GGCTCTTCCTCAGCCAGGGCCTGAAGAACTCCTGCCTGACTTAGGAGTCAGAGCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               963 caggggctgaggaggaggagcagggggtgctgcgtggaaggtgctgcaggtccttgcacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265 CAGGGGCTGAGGAGGAGGAGGAGGGGGTGCTGCAAGGTGCTGCAGGTCCTTGCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1023 ctgtgtcgcgcctctcctcggaaacagaaccctcccacagcacatcctacccggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1083 accagcctcagagggtccttctggaaccagctgtcgtggagagaatggggtgctttcgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     145 ACCAGCCTCAGAGGGTCCTTCTGGAACCAGCTGTCTGTGGAGAGAATGGGGTGCTTTCGT
                                                           1;
                     Length 564;
                                                           Indels
                     Score 538; DB 36;
Pred. No. 1.9e-136;
                                                           0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AI245950.1 GI:3841347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1203 aattttatttttgctggt 1220
                   Best Local Similarity (8.9%)
Matches 552; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AI245950/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25
                                                                                                                                                                                                                                                                                                                                                                                                        903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCUS
                                                                                                 δ
                                                                                                                                    g
                                                                                                                                                                          ò
                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDNA Library Preparation: M. Bento Soares, Ph.D.
CDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing Dy: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Jobes 1977 Parababac (Pharmacia) with a modified polylinker; 1st strand cDNA was prepared from pooled bulk breast tumor tissue, and was then primed with a Not I oligo(dT) primer. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pr773 vector. This library is the normalized version of NCI_CGAP_BRI.1. Library was constructed by Bento Soares and M. Fatima Bonaldo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ж.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCI CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                   Tel: (301) 496-1550
Email: Robert_Strausberg@nih.gov
Tissue Procurement: Christopher Moskaluk, M.D., Ph.D., Michael
Emmert-Buck, M.D., Ph.D.
285 TGCCTGACTTAGGAGTCAAAGCCCGGCAGGGGCTGAGGAGGAGGAACAAGGGGTGCTGCG 226
                                                                                                                                                                                                                                                                                                                                                                                                    21-0CT-1997
IMAGE:1132230
                                                                                                                                                                                                                                                                                                                                                                                                                    np76c04.s1 NCI_CGAP_Br2 Homo sapiens cDNA clone IMAGE:1132230 similar to TR:G452270 G452270 2-19 PROTEIN PRECURSOR.;, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 564)
                                                                                                                                                                                                                                                               Insert Length: 1929 Std Error: 0.00 Seq primer: -40ml3 fwd. ET from Amersham High quality sequence stop: 407. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       www-bio.lln1.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1. .564.
/organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:1132330"
/clone_lib="NCI_CGAP_Brz"
/sex="female, pooled"
/tissue_type="breast"
/lab_host="DH108"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                        mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AA622758
AA622758.1 GI:2526634
                                                                                                                                                                                                                                                                                                                                                                                                      564 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   169 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tumor Gene Index
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                             sequence.
                                                                                                                                                                                                                                                                                                                                                                                                  AA622758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                  AA622758/c
                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
                                                                                                                                                                                        1117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                      LOCUS
                                   ö
                                                                       엄
                                                                                                              ò
                                                                                                                                            g
                                                                                                                                                                                      ò
                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                     g
```

1142

86

26

1022

1082

ဖ

```
AA563933
AA563933.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      94
                                           human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                       ORGANISM
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                   JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         915
                                                                                              REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             792
                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                      Anote—"Organ: Colon; Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker; 1st strand cDNA was prepared from colon adenocarcinoma, and was then primed with a Not I colingo(dT) primer. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library is normalized. Library was constructed by Bento Soares and M. Fatima Bonaldo. "
                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             acctcccacagcacatcctacccggaagaccagcctcagagggtccttctggaaccagc 1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1114 tgtctgtggagagaatggggtgctttcgtcagggactgctgacggctggtcctgaggaag 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  694 ggaaactcttctctgacttggggagttcctacgcaaaacaactgggcttccgggacagct 753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gggtcttcataggagccaaagacctcaggggtaaaagcccctttgagcagttcttaaaga 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              acagcccagacacaaacaaatacgaggatggccagagctgctggagatggagggctgca 873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              171 ACCCTCCCACAGCACATCCTACCCGGAAGACCAGCCTCAGAGGGTCCTTCTGGAACCAGC 112
                                                                                                                                                                                                                                                                                                                                                                                                                                              531 GAAACTTCTTCTCTGACTTGGGGAGTTCCTACGCAAAACAACTGGGCTTCCGGGACAGCT 472
                                                                                                                                                                                                                                                                                                                                                                                         0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      111 TGTCTGTGGAGAGAATGGGGTGCTTTCGTCAGGGACTGCTGACGCTGGTCCTGAGGAAG
                                                                                                                                                                                                                                                                                                                                                               44; Length 538;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3; Indels
I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                           Score 522.2; DB 44
Pred. No. 3.8e-132;
0; Mismatches 3;
                                                                                                                     db_xref="taxon:9606"
/clone="THAGE:187187"
/clone=lib="NCI_CGAP_CO8"
/tissue_type="adenocarcinoma"
/lab_host="DH108"
              www-bio.llnl.gov/bbrp/image/image.htm]
                                        Std Error: 0.00
                                                                                                          /organism="Homo sapiens"
                                                   Seg primer: -40UP from Gibco
High quality sequence stop: 479.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 99.4%;
Matches 524; Conservative (
                                        Insert Length: 1251
through the
                                                                                                                                                                                                                                                                                                        11
Found
                                                                                                source
                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AA563933/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           51
                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

nk23b02.s1 NCI_CGAP_CO11 Homo saptens cDNA clone IMAGE:1014315 3' similar to TR:6452270 6452270 2-19 PROTEIN PRECURSOR.;, mRNA

mRNA

518 bp

AA563933

DEFINITION

sednence.

```
Unpublished (1997)
On Sep 12, 1996 this sequence version replaced gi:1290555.
On Sep 12, 1996 this sequence version replaced gi:1290555.
Contact: Robert Strausberg, Ph.D.
Tel: (301) 496-1550
Email: Robert_Strausberg@nih.gov
Tissue Procurement: Christopher Moskaluk, M.D., Ph.D., Ph.D., CDNA Library Preparation: Stratagene, Inc.
CDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NOI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LINE at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 518) NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap. NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap. National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            672 accaaaatgaacgatgaaagcaggaaactettetettgaettggggagtteetaegeaaaa 731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              732 caactgggcttccgggacagctgggtcttcataggagccaaagacctcagggggtaaagc 791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tcagocaggggcctgaagaagctcctgcctgacttaggagtcagagcccggcaggggctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       278 TCAGCCAGGGGCCTGAAGAAGCTCCTGCCTGACTTAGGAGTCAGAGCCCGGCAGGGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       42.4%; Score 518; DB 35; Length 518; 100.0%; Pred. No. 5.3e-131; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Seg primer: -40ml3 fwd. ET from Amersham
High quality sequence stop: 452.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                www-bio.llnl.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Std Error: 0.00
GI:2335572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Insert Length: 650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 100. Matches 518; Conservative
                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
```

199

902

962 259

RESULT 8 AI348065/c DEFINITION

38

g

ò

86

ŏ 셤

ŏ 셤 ORGANISM

REFERENCE AUTHORS

TITLE

JOURNAL

COMMENT

ACCESSION VERSION KEYWORDS SOURCE

```
AA552519 594 bp mRNA EST 05-SEP-1997 nk14e01.s1 NCI_CGAP_CO2 Homo sapiens cDNA clone IMAGE:1013496 3' similar to TR:G452270 G452270 2-19 PROTEIN PRECURSOR. ;, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 594)

NCI-GGAP http://www.ncbi.nlm.nih.gov/nciogap.

NCI-GGAP institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           963 caggggctgaggaggaggaggagggggtgctgcgtggaaggtgctgcaggtccttgcacg 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1143 cagggactgctgacggctggtcctgaggaaggacaaactgcccagacttgagcccaatta 1202
                                                                                                                                                                                                                                                                                                                                                                                                  1023 ctgtgtcgcgcctctcctcctcggaaacagaacctcccacagacatcctacccggaag 1082
                                                                                                                                                                                                                                                                                                                                                                                                                          cDNA Library Preparation: Stratagene, Inc., David B. Krizman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     78 CAGGGACTGCTGACGGCTGGTCCTGAGGACAAACTGCCCAGACTTGAGCCCAATTA 19
                                                  318 GCCTCTTCCTCAGCCAGGGCCTGAAGAAGCTCCTGCCTGACTTAGGAGCTCAGAGCCCGG
                                                                                                                                                                                                                                                                                                                                   tggccagagctgctggagatggagggctgcatgcccccgaagccattttagggtggctgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tissue Procurement: L. Jeffrey Medeiros, M.D., Michael R. Emmert-Buck, M.D., Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tumor Gene Index
Unpublished (1997)
On Nov 29, 1993 this sequence version replaced gi:502047
Contact: Robert Strausberg, Ph.D.
Tel: (301) 496-1550
Email: Robert_Strausberg@nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA Sequencing by: Washington University Genome
Clone distribution: NCI-CGAP clone distribution
found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cDNA Library Arraying: Greg Lennon, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Seq primer: -40ml3 fwd. ET from Amersham
High quality sequence stop: 347.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ww-bio.llnl.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Std Error: 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA552519.1 GI:2322773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Insert Length: 1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA552519/c
                          783
                                                                                                                   843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                   g
                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                   δ
                                                                                                                                                                 g
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                           δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tissue Procurement: Christopher Moskaluk, M.D., Ph.D., Michael R. Bumeart-Buck, M.D., Ph.D. Ph.D. CDNA Library Preparation: M. Bento Soares, Ph.D. CDNA Library Arrayed by: Greg Lennon, Ph.D. DNA Sequencing by: Washington University Genome Sequencing Center Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note—"Organ: colon; Vector: pT/T3D-Pac (Pharmacia) with a modified polylinker; 1st strand cDNA was prepared from colon adenocarcinoma, and was then primed with a Not I coligo(dT) primer. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT/T3 vector. Library is normalized. Library was constructed by Bento Soares and M. Fatima Bonaido. "

154 c 131 g 115 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ó;
                                                                                                                                                                                                                                                                                                                                                  A1348065 498 bp mRNA EST 02-FEB-1999 qp56d09.xl NCI_CGAP_CO8 Homo sapiens cDNA clone IMAGE:1927025 3' similar to TR:P97805 P97805 EF-7 ;, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (basea; Lot 498)

NCI-GGAP http://www.ncbi.nlm.nih.gov/ncicgap.

National Cancer Institute, Cancer Genome Anatomy Project (CGAP), National Cancer Institute, Cancer Genome Anatomy Project (CGAP), On Peb 6, 1998 this sequence version replaced gi:2848226.

Contact: Robert Strausberg, Ph.D.

Tel: (301) 496-1550
1032 gectetectecteggaaacagaacecteceacageacatectaeceggaagaecageete 1091
                                                                                         1092 agagggtccttctggaaccagctgtctgtggagagaatggggtgctttcgtcagggactg 1151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  723 tacgcaaaacaactgggcttccgggacagctgggtcttcataggagccaaagacctcagg 782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 498;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. 1.5e-125;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40.8%; Score 498; DB 45; 100.0%; Pred. No. 1.5e-125;
                                                                                                                                                                                     1152 ctgacggctggtcctgaggaaggacaaactgcccagac 1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/db_xref="taxon:9666"
/clone="IMAGE:1927025"
/clone="INAGE:1927028"
/tissue_type="adenocarcinoma"
/lab_host="bH108"
                                                                                                                                                                                                          ww-bio.llnl.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Std Error: 0.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Seq primer: -40UP from Glbco
High quality sequence stop: 459.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                           AI348065.1 GI:4085271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Insert Length: 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 498; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                   AI348065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
```

source

FEATURES

BASE COUNT

ò

Sequencing Center information can be

æ

us-09-186-342-1.rst

```
Matches 507;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local
                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1130
               JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1190
                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
          /clone_lib="NCI_CGAP_Co2"
/tissue_type="tumor"
/lab_host="SOLR (kanamycin resistant)"
/lab_host="SOLR (kanamycin resistant)"
/note="Organ: colon; Vector: Bluescript SK-; Site_1:
EcoRI; Site_2: XhoI; Cloned unidirectionally. Primer:
Oligo dT. Bulk colon villous adenoma. 5' adaptor sequence:
5' GAATTGGCGCACGAG 3' 3' adaptor sequence: 5'
CCGACTTTTTTTTTTTTTTTT 3' Average insert size: 1.1 kb."
175 c 154 g 140 t
                                                                                                                                                                                                                  4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      to91c11.x1 NCI_CGAP_Gas4 Homo sapiens cDNA clone IMAGE:2185652 3' similar to SW:EF07_MOUSE P97805 PROTEIN EF-7 ;, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalla;
Eutherla; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 508)
NCI-CGAP http://www.ncbl.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tgcgtggaaggtgctgcaggtccttgcacgctgtgtcgcgcctctcctcctcggaaacag 1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aacceteceacageacatectaeeeggaagaecageeteagagggteettetggaaeeag 1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1113 ctgtctgtggagaatggggtgctttcgtcagggactgctgacggctggtcctgaggaa 1172
                                                                                                                                                                                                                                                                                                                                                                                                                    932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     812
                                                                                                                                                                                                                                                                                                     693 aggaaactcttctctgacttggggagttcctacgcaaaacaactgggcttccgggacagc 752
                                                                                                                                                                                                                                                                                                                                                                                         417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGCCCCCGAAGCCATTTTAGGGTGGCTGTGGCTCTTCCTCAGCCAGGGGCCTGAAGAAG 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                178 AACCCTCCCACACACATCCTACCCGGAAGACCAGCCTCAGAGGGTCCTTCTGGAACCAG 119
                                                                                                                                                                                                                                               ggtgcactggtgctggtggcctcctacgacgatccagggaccaaaatgaacgatgaaagc 692
                                                                                                                                                                                                                                                                        594 GGTTCACTGTTCCTGTTGCCTTCTTACGAGATTCCAGGACCCAAATTGAACGATGAAAGC 535
                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           53
                                                                                                                                                                                                                                                                                                                                                              tgggtcttcataggagccaaagacctcaggggtaaaagcccctttgagcagttcttaaag
                                                                                                                                                                                                                                                                                                                                                                             atgcccccgaagccattttagggtggctgtggctcttcctcagccaggggctgaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGTCTGTGGAGAGAATGGGGGTGCTTTCGTCAGGGACTGCTGACGGCTGGTCCTGAGGAA
                                                                                                                                                                                                                  4;
                                                                                                                                                                                    Length 594;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1173 ggacaaactgcccagacttgagcccaattaaattttatttttgctggt 1220
                                                                                                                                                                                                                27; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 496.8; DB 35;
Pred. No. 3.4e-125;
                                                                                                                                                                                                                0; Mismatches
/clone="IMAGE:1013496"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AIB01582.1 GI:5367054
                                                                                                                                                                                  Query Match
Best Local Similarity 94.7%;
Matches 557; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A1801582
                                                                                                                            125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
                                                                                                                           BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AI801582/c
                                                                                                                                                                                                                                             633
                                                                                                                                                                                                                                                                                                                                                            753
                                                                                                                                                                                                                                                                                                                                                                                       474
                                                                                                                                                                                                                                                                                                                                                                                                                    813
                                                                                                                                                                                                                                                                                                                                                                                                                                                416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ô
                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŝ
```

```
Tel: (301) 496-1550

Bmail: Robert_Strausberg@nih.gov

Email: Robert_Strausberg@nih.gov

Emmert-Buck, M.D., Ph.D.

cDNA Library Preparation: Life Technologies, Inc.

cDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: Greg Lennon, Ph.D.

DNA Sequencing by: Washington University Genome Sequencing Center

Clone distribution: NCI-GGAP clone distribution information can be

found through the I.M.A.G.E. Consortium/LLNL at:

www-bio.llnl.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="Organ: stomach; Vector: pCMV-SPORT6; Site_1: Sall; Site_2: NotI; Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.69 kb. Life Technologies catalog #: 11549-011"
                                                                                                                                                                                                                                                                                                                                                                                                                /clone-"IMAGE:2185652"
/clone_lib-"NCI_CGAP_Gas4"
/tissue_type-"poorly differentiated adenocarcinoma with
signet ring cell features"
/lab_host-"DH108"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     209 AGGTCCTTGCACGCTGTGTCGCGCCTCTCCTCCTCGGAAACAGAACCCTCCCACAGCACACAA 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     710 cttggggagttcctacgcaaaacaactgggcttccgggacagctgggtcttcataggagc 769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1010 aggicetigeaegetgigiegegeeteteeteeteggaaacagaaceteecacagaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   version replaced gi:2948662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40.6%; Score 495.4; DB 60; Length 508; 99.6%; Pred. No. 7.7e-125; 1ve 0; Mismatches 1; Indels 1;
                                                                                                                                                                                                                                                                                     Std Error: 0.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ų
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              115
                                                                                                                                                                                                                                                                                                                                                                                  /organism="Homo sapiens"
/db_xref="taxon:9606"
Tumor Gene Index
Unpublished (1997)
On Mar 10, 1998 this sequence ver
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttgagcccaattaaattttatttttgctg 1218
                                                                                                                                                                                                                                                                                                       Seq primer: -400P from Gibco
High quality sequence stop: 352.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            133 g
                                                                                                                                                                                                                                                                                       Insert Length: 1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              158 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
```

1073

219

윱

```
/organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:251362"
/clone=lib="Soares_Dieckgraefe_colon_NHCD"
/tissue_type="colonic mucosa from 3 patients with Crohn's disease"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AW001308 479 bp mRNA EST 27-OCT-1999 wu28c10.x1 Soares_Dieckgraefe_colon_NHCD Homo sapiens cDNA clone IMAGE:2521362 3' similar to SW:EF07_MOUSE P97805 PROTEIN EF-7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 479)
NCI-CGAP http://www.ncbi.nlm.nih.gov/nciogap.
NCI-CGAP http://www.ncbi.nlm.nih.gov/nciogap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tumor Gene Index
Unpublished (1997)
On May 9, 1996 this sequence version replaced gi:1132845.
Contact: Robert Strausberg, Ph.D.
Tel: (301) 496-1550
Email: Robert_Strausberg@thih.gov
This clone is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information.
Seq primer: -40UP from Gibco.
Location/Qualifiers
                                                                                                                                                                                                                                                                                            954 agagcccggcaggggctgaggaggaggagcaggggtgctgcgtggaaggtgctgcaggt 1013
/lab_host="DH10B (phage-resistant)"
                                                                                                                                                                                                                                                                                                                                                                       1194 gcccaattaaattttatttttgctggt 1220
                                                                                                                                                                                                                                                                                                                                                                                        38 GCCCAATTAAATTTTATTTTGCTGGT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AW001308.1 GI:5848224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA sequence.
AW001308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AW001308/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                ŏ
                                                                                                                                                                                   g
                                                                                                                                                                                                                          δλ
                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                 ò
                                    셤
                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="Organ: colon; Vector: pt773D-Pac (Pharmacia) with a modified polylinker; 1st strand cDNA was prepared from RER+ colon tumor, and was then primed with a Not I coligo(dT) primer. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pt773 vector. Library is not normalized. Library was constructed by Bento Soares and M. Fatima Bonaldo (Soares4).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     M.D., Ph.D. cDNA Library Preparation: M. Bento Soares, Ph.D. cDNA Library Arrayed by: Greg Lennon, Ph.D. cDNA Library Arrayed by: Greg Lennon, Ph.D. DNA Sequencing by: Washington University Genome Sequencing Center Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ij
                                                                                          AA622120 518 bp mRNA EST 14-OCT-1997 nq56b03.s1 NCI_CGAP_CO9 Homo sapiens cDNA clone IMAGE:1147853 3' similar to TR:6452270 G452270 2-19 PROTEIN PRECURSOR. ;, mRNA
                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. [ (bases 1 to 518) NCI-GGAP http://www.ncbi.nlm.nih.gov/nciogap. NCI-GGAP http://www.ncbi.nlm.nih.gov/nciogap. National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                       Unpublished (1997)
On Sep 12, 1996 this sequence version replaced gi:1404591.
Contact: Robert Strausberg, Ph.D.
Tel: (301) 496-1550
Emmail: Robert_Strausberg@nih.gov
Tissue Procurement: Ilan Kirsch, M.D., Michael R. Emmert-Buck,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ٠.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 495; DB 36; Length 518;
Pred. No. 1e-124;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="INAGE:1147853"
/clone_lib="NCLCGAP_CO9"
/tissue_type="colon tumor RER+"
/lab_host="DH108"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Seg primer: -40ml3 fwd. ET from Amersham
High quality sequence stop: 414.
Location/Qualifiers
1. .518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     www-bio.llnl.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    124 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                133 g
   29 TIGAGCCCAATTAAATTITATTITGCIG
                                                                                                                                                                      AA622120
AA622120.1 GI:2525996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40.5%;
99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  158 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 506; Conservative
                                                                                                                                                                                                                                                                                                                                                         Tumor Gene Index
                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                      sedneuce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    103
                                                                                                                                                                                                                                human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local (
                                                    AA622120/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                              DEFINITION
                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         398
                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                            SOURCE
```

Dp

δ

δλ a δ

COUNT

BASE

730

à g à 8 õ අ ò g ð g ò 셤 ð 8

790

```
/clone_iic
/sex="mixed"
/tissue_type="colon tumor"
/lab_host="Solk (kanamycin resistant)"
/note="Organ: colon; Vector: Bluescript SK-; Site_1:
BcoRt, Site_2: Xhoi; Cloned unidirectionally. Primer:
Oligo dr. Pooled colon tumors. 5' adaptor sequence: 5'
GAATTCGGCACGAG 3' 3' adaptor sequence: 5'
CTCCAGTTTTTTTTTTTTTT 3' Average insert size: 1.2 kb."
149 c 126 g 107 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo saplens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases i to 461)
NCI-CGAP http://www.ncbi.nlm.nih.gov/nciogap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           966 gggctgaggaggaggaggaggggtgctgcgtggaaggtgctgcaggtccttgcacgctg 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tgtcgcgcctctcctccggaaacagaacctcccacagcacatcctacccggaagacc 1085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA622570 461 bp mRNA EST 21-OCT-1997 np21f04.s1 NCL_CGAP_GC5 Homo sapiens cDNA clone IMAGE:1116991 similar to TR:G452270 G452270 2-19 PROTEIN PRECURSOR. ;, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gcaaaacaactgggcttccgggacagctgggtcttcataggagccaaagacctcaggggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1086 agcctcagagggtccttctggaaccagctgtctgtggagagaatggggtgctttcgtcag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               38.0%; Score 464; DB 39; Length 464; 100.0%; Pred. No. 2.8e-116; 1ve 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1146 ggactgctgacggctggtcctgaggaaggacaaactgcccagac 1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone="IMAGE:1419837"
/clone_lib="NCI_CGAP_Co12"
                                                                                     /organism="Homo sapiens"
/db_xref="taxon:9606"
           ity sequence stop: 453.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA622570
AA622570.1 GI:2526446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 464; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tumor Gene Index
              High quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                        82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 14
AA622570/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tumor Gene Index

In Onpublished (1997)
On Jan 19, 1998 this sequence version replaced gi:2153278.
Contact: Robert Strausberg, Ph.D.
Contact: Robert Strausbergenih, gov.
Tal: (301) 469-1550
Email: Robert_Strausbergenih, gov.
Tissue Procurement: L. Jeffrey Medeiros, M.D., Michael R.
Emmert-Buck, M.D., Ph.D.
CONA Library Preparation: Stratagene, Inc.
CONA Library Preparation: Stratagene, Inc.
CONA Library Arrayed by: Greg Lennon, Ph.D.
CONA Library Arrayed by: Greg Lennon, Ph.D.
CONA Library Arrayed by: Greg Lennon, Ph.D.
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
www-bio.llnl.gov/bbrp/image/image.html
                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 464)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
NAI-CGAP http://www.ncbi.nlm.cih.gov/ncicgap.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1030 gegeeteteeteeteggaaacagaaceeteecaageacateetaeeeggaagaecagee 1089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tcagagggtccttctggaaccagctgtctgtggagagaatggggtgctttcgtcagggac 1149
                                                                                                                                                                                                                 aacaactgggcttccgggacagctgggtcttcataggagccaaagacctcaggggtaaaa 789
                                                                                                                                                                                                                                                                  478 AACAACTGGGCTTCCGGGACAGCTGGGTCTTCATAGGAGCCAAAGACCTCAGGGGTAAAA 419
                                                                                                                                                                                                                                                                                                                                   849
                                                                                                                                                                                                                                                                                                                                                                                      359
                                                                                                                                                                                                                                                                                                                                                                                                                                            606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AA847242 464 bp mRNA EST 31-MAR-1998 of01b11.s1 NCI_CGAP_Co12 Homo sapiens cDNA clone IMAGE:1419837 similar to TR:P97805 P97805 EF-7; , mRNA sequence.
                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                           63; Length 479;
                                                                                                                                                                 Indels
                                                                                                        Score 471.6; DB 63
Pred. No. 2.4e-118;
0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Insert Length: 1265 Std Error: 0.00
Seq primer: -40ml3 fwd. ET from Amersham
  112
     δ
  125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA847242
AA847242.1 GI:2933760
                                                                                                        38.6%;
99.2%;
     Ö
                                                                                                                            Best Local Similarity 99.2
Matches 474; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
  ď
93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   human.
                                                                                                        Query Match
Best Local
```

1090

AA847242/c DEFINITION

RESULT

셤 à

ACCESSION

ORGANISM

KEYWORDS SOURCE VERSION

AUTHORS TITLE

JOURNAL

COMMENT

REFERENCE

'n

45

ö

Gaps

ö

3

Ċ

JOURNAL

```
1. .454
/organism="Homo sapiens"
/db_xref="taxon:9606"
/db_xref="taxon:9606"
/clone="lib="NUC_CGAP_CG2"
/tissue_type="tumor"
/lab_host="SOLR (kanamycin resistant)"
/nab_host="SOLR (kanamycin resistant)"
/note="organ: colon; Vector: Bluescript SK-; Site_1:
FCORI; Site_2: XhoI; Cloned unidirectionally. Primer:
Oligo dT. Bulk colon villous adenoma. 5' adaptor sequence:
5' GAATTCGGCAGGAG 3' 3' adaptor sequence: 5'
CTCGAGTTTTTTTTTTTTTTT 3' Average insert size: 1.1 kb."
                                                                                                                                                                                                       1 (bases 1 to 454)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        454 GCCAAAGACCTCAGGGGTAAAAGCCCCTTTGAGCAGTTCTTAAAGAACAGCCCAGACACA 395
                                                                                                                                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D.
Tel: (301) 496-1550
Email: Robert_Strausberg@nih.gov
Tissue Procurement: L. Jeffrey Medeiros, M.D., Michael R.
Emmert-Buck, M.D., Ph.D.
CDNA Library Preparation: Stratagene, Inc., David B. Krizman,
AA552362 454 bp mRNA EST 05-SEP-1997 nk04h09.s1 NCI_CGAP_CO2 Homo sapiens cDNA clone IMAGE:1012577 similar to TR:G452270 G452270 2-19 PROTEIN PRECURSOR. ;, mRNA
                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        768 gocaaagacotcaggggtaaaagcocotttgagcagttottaaagaacagcocagacaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 35; Length 454;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA Sequencing by: Washington University Genome Clone distribution: NCI-CGAP clone distribution found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 449.4; DB 35.
Pred. No. 2.7e-112;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                       cDNA Library Arraying: Greg Lennon, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Insert Length: 1355 Std Error: 0.00
Seq primer: -40ml3 fwd. ET from Amersham
High quality sequence stop: 446.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              www-bio.lln1.gov/bbrp/image/image.html
                                                                                            AA552362.1 GI:2322614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 36.8%;
Best Local Similarity 99.8%;
Matches 450; Conservative
                                                                                                                                                                                                                                                                      Tumor Gene Index
Unpublished (1997)
                                                                                                                                                     Homo sapiens
                                                             sednence
                                                                                                                                    human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
ORIGIN
                       DEFINITION
                                                                                                                                                     ORGANISM
                                                                                                                                                                                                            REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                     JOURNAL
COMMENT
                                                                            ACCESSION
                                                                                              VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                          Unpublished (1997)

On Sep 29, 1997 this sequence version replaced gi:1520561.

Contact: Robert Strausberg, Ph.D.

Tel: (301) 496-1550

Email: Robert_Strausberg@nih.gov

Tissue Procurement: Christopher Moskaluk, M.D., Ph.D., Michael R.

Emmert-Buck, M.D., Ph.D.,

CDNA Library Preparation: Stratagene, Inc.

CDNA Library Arrayed by: Greg Lennon, Ph.D.

DNA Sequencing by: Washington University Genome Sequencing Center

Clone distribution: NI-CGAP clone distribution information can be

found through the I.M.A.G.E., Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     969 ctgaggaggaggaggaggggtgctgcgtggaaggtgctgcaggtccttgcacgctgtgt 1028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1029 egegectetectecteggaaacagaaceteceacageacatectaeceggaagaceage 1088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 161 CGCGCCTCTCCTCCTCGGAAACAGAACCCTCCCACAGCACCATCCTACCCGGAAGACCAGC 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 461 AAACAACTGGCTTTCCGTGACAGCTGGGTCTTCATAGGAGCCAAAGACCTCAGGGGTAAA 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      221 CTGAGGAGGAGGAGCAGGGGGTGCTGCGTGGAAGGTGCTGCAGGTCCTTGCACGCTGTGT 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aaacaactgggcttccgggacagctgggtcttcataggagccaaagacctcaggggtaaa 788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 461;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 456.2; DB 36;
Pred. No. 3.8e-114;
0; Mismatches 3;
                                                                                                                                                                                                                                                                      Insert Length: 681 Std Error: 0.00
Seq primer: -40m13 fwd. Er from Amersham
High quality sequence stop: 381.
Location/Qualifiers
                                                                                                                                                                                                                                ww-bio.llni.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                37.4%;
99.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            458; Conservative
                                                                                                                                                                                                                                                                                                                                               1. .461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84
```

Query Match

source

FEATURES

Local

Matches 729 789

g δ 임 ò g Ω g

임 ö g

ò

Sequencing Center information can be

ö

0; Gaps

Indels

887 335

1089

δ

g

g

à

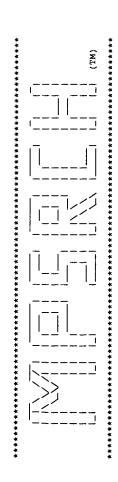
AA552362/c

```
ò
 g
```

Qy 1128 atggggtgctttcgtcagggactgctgacggctggtcctgaggaagga	
atggggtgctttcgtcagggactgctgacggctg	94 ATGGGGTGCTTTCGTCAGGGACTGCTGACGCTGCTCCTGAGGAAGGA
1128	94
οy	qq

Search completed: May 31, 2000, 17:51:15 Job time: 3432 sec Op

ò



Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd

protein - protein database search, using Smith-Waterman algorithm MPsrch_pp

Wed May 31 11:04:55 2000; MasPar time 21.50 Seconds 719.210 Million cell updates/sec Run on:

Tabular output not generated.

>US-09-186-342-2 (1-223) from US09186342.pep 1686 1 MRVSGVLRLLALIFAIVTTW......KYEGWPELLEMEGCMPPKPF 223

Description: Perfect Score: Sequence:

PAM 150 Gap 11 Scoring table:

225878 seqs, 69334122 residues Searched:

Post-processing: Minimum Match 0% Listing first 45 summaries

Database:

sptremb112
1:sp_archea 2:sp_bacteria 3:sp_fungi 4:sp_human
5:sp_lnvertebrate 6:sp_nammal 7:sp_mhc 8:sp_organelle
9:sp_phage 10:sp_plant 11:sp_rodent 12:sp_unclassified
13:sp_vertebrate 14:sp_virus

Mean 45.504; Variance 84.613; scale 0.538 Statistics:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Pred. No.	2.54e-02	2.54e-02	4.90e-02	2.44e - 01	4.58e-01	3.35e-01	3.35e-01	v	8.52e-01	8.52e-01	1.16e+00	1.57e+00	1.57e+00	1.57e+00	2.12e+00	2.12e+00	2.12e+00	2.87e+00	2.87e+00	3.86e+00
Description	HYPOTHETICAL 5.0 KD PR	CREB-BINDING PROTEIN H	TWO P DOMAIN POTASSIUM	MO1E5.2 PROTEIN.	HYPOTHETICAL 30.2 KD P	KAKAPO (FRAGMENT).	KAKAPO (FRAGMENT).	INOSINE-5'-MONOPHOSPHA	UDP-GLUCURONOSYLTRANSF	UDP-GLUCURONOSYLTRANSF	XYLOSE REPRESSOR.	HS1 BINDING PROTEIN 3.	PHA SYNTHASE.	MOLYBDOPTERIN OXIDORED	COSMID C25H3.	SIMILARITY TO FREQUENI	PUTATIVE N-MYRISTOYLTR	HYPOTHETICAL 14.5 KD P	N-(5'-PHOSPHORIBOSYL)-	INNER MEMBRANE PROTEIN
a	088417	001368	094526	045691	029937	077292	07.7291	096387	Q9XS55	09xs56	082844	Q921K1	052072	030078	018188	018887	080586	086225	012131	051829
BB	11	S	S	S	Н	Ŋ	Ŋ	വ	9	9	7	11	7	٦	ഗ	ഗ	10	7	m	7
Query Match Length DB	44	3190	1001	358	253	2285	2396	510	531	532	386	386	561	1134	269	320	389	124	233	240
Query Match	6.5	6.5	6.4	6.1	9.0	9.0	9.0	5.9	5.9	5.9	5.8	5.8	ω. 8	5.8	5.7	5.7	5.7	5.6	5.6	5.6
Score	110	110	108	103	101	102	102	100	66	66	86	46	97	26	96	96	96	95	95	94
Result No.	T	7	m	4	5	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20

ő

~

```
RESULT
       DDT THE SECOND CONTRACT OF THE SECOND CONTRAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GOLDSTEIN S.A., PRICE L.A., ROSENTHAL D.N., PAUSCH M.H.; GOLDSTEIN S.A., PRICE L.A., ROSENTHAL D.N., PAUSCH M.H.; "ORKI, a potassium-selective leak channel with two pore domains cloned from Drosophila melanogaster by expression in Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 GGMQQVVGTQMGMVNSMPMS-ISNNGNNGMNAIPGMNTIAQGNLGNMVLTNSVGGGMGGM 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97 FFAFTVCSTVGYGNISPTT-FAGRMIMIAY-SVIGIPVNGILFAGL-GEYFG-RTFEAIY 152
                          AKIMARU H., CHEN Y., DAI P., HOU D.X., NONAKA M., SMOLIK S.M., ARMSTRONG S., GOODMAN R.H., ISHII S.; "Drosophila CBP is a co-activator of cubitus interruptus in hedgehog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 6.5%; Score 110; DB 5; Length 3190; Best Local Similarity 33.8%; Pred. No. 2.54e-02; Matches 24; Conservative 14; Mismatches 30; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 108; DB 5; Length 1001; Pred. No. 4.90e-02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PAUSCH M.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAUSCH M.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14; Mismatches 20; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
TISSUB-BRAIN AND MUSCLES OF ADULTS;
GOLDSTEIN S.A.N., PRICE L.A., ROSENTHAL D.N., PAUSCH M.H
Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; U55321; AAC69250.1;
FLYBASE; FB9n0017561; Ork1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GOLDSTEIN S.A.N., PRICE L.A., ROSENTHAL D.N., PAUSCH M.F Submitted (APR-1996) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Proc. Natl. Acad. Sci. U.S.A. 93:13256-13261(1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1001 AA; 109290 MW; A57C4B04 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                         3190 AA; 331879 MW; A44A25BF CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT; 1001 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-JAN-1999 (TrEMBLrel. 09, Last sec
01-MAY-1999 (TrEMBLrel. 10, Last and
TWO P DOMAIN POTASSIUM CHANNEL ORKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drosophila melanogaster (Fruit fly)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUENCE FROM N.A.
TISSUE-BRAIN AND MUSCLES OF ADULTS;
MEDLINE; 97075152.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
TISSUE-BRAIN AND MUSCLES OF ADULTS;
                                                                                                                                 signaling.";
Nature 386:735-738(1997).
Rature 386:735-738(1997).
RSSP; P03622: 2IFO.
FLYBASE; FBGN0015624; nej.
PFAM; PF00439; bromedomain; 1.
PFAM; PF00569; Zz; II.
PRINTS; PR00503; BROMODOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-FEB-1997 (TrEMBLrel. 02, 01-JAN-1999 (TrEMBLrel. 09,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               33.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240 VNHLKQQPGGG 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  129 VKFLKEIPGGA 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 20; Conserv
MEDLINE; 97263578.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cerevisiae.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conic channel
                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         094526;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE SULL SOURCE SOUR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
```

RESULT

```
STRAIN-VC-16 / DSM 4304 / ATCC 49558;
STRAIN-VC-16 / DSM 4304 / ATCC 49558;
MEDLINE; 98049343.
KLENK H.-P., CLAYTON R.A., TOMB J.-F., WHITE O., NELSON K.E.,
KETCHUM K.A., DODSON R.J., GWINN M., HICKEY E.K., PETERSON J.D.,
RICHARDSON D.L., KERLANAGE A.R., GRAHAM D.E., KYRPIDES N.C.,
FLEISCHMANN R.D., QUACKENBUSH J., LEE N.H., SUTTON G.G., GILL S.,
KIKKNESS E.F., DOGGHERYY B.A., MCKENNEY K., ADAMS M.D., LOFFUCS B.,
PETERSON S., REICH C.I., MCHELL L.K., BADGER J.H., GLODEK A., ZHOU L.,
OVERBEEK R., GOCANNE J.D., WEIDMAN J.F., MCDOMALD L., UTTERBACK T.,
COTTON M.D., SPRIGGS T., BATTIACH P., KAINE B.P., SYKES S.M.,
SADOW P.W., D'ANDREA K.P., BOWMAN C., FUJII C., GARLAND S.A.,
MASON T.M., OLSEN G.J., FRASER C.M., SMITH H.O., WOESE C.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE; 94150718.

MILSON R., AINSCOUGH R., ANDERSON K., BAYNES C., BERKS M., COULSON A., BORTON J., CONNELL M., COPSET T., COOPER J., COULSON A., BORTON M., DEAR S., DU G., DURBILM R., FAVELLO A., FULTON L., GARDNER A., GREEN P., HAWKINS T., HILLIER L., JIER M., JOHNSTON L., JOHNSTON B., KIRSTEMN J., LATSTER N., LATSTEILLE P., LIGHTNING J., LLOYD C., MCWURRAY A., MORTIMORE B., O'CALLAGHAN M., PARSONS J., LLOYD C., ROWINERN E., STADEN R., SAUNDERS D., SHOWNKEEN R., SMALDON N., SMITH A., SONNHAMMER E., STADEN R., SAUNDERS D., SHOWNKEEN R., THIERRY-MIEG J., THOMAS K., VAUDIN M., VAUGHAN K., WATTERSTON R., WATSON A., WEINSTOCK L., WILKINGSON-SPROAT J., WOHLDMAN P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   258 ISFLKHIERCESLWYVLDYS-TGS-LTDQYKMLRVELEG-YQKGLGDRASTIVINKIDLS 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida; Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ouery Match 6.1%; Score 103; DB 5; Length 358; Best Local Similarity 37.3%; Pred. No. 2.44e-01; Matches 25; Conservative 11; Mismatches 27; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Archaeoglobus fulgidus.
Archaea; Euryarchaeota; Archaeoglobales; Archaeoglobaceae;
                                                                                                                                                                                                                                                                                                                                               Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-7AN-1998 (TrEMBLrel. 05, Created)
01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
01-AUG-1998 (TrEMBLrel. 07, Last annotation update)
                                                                             Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; 293385; CAB07637.1; -.
PFAM; PF01018; GTP1_0BG; 1.
PRINTS; PR00326; GTP10BG.
SEQUENCE 358 AA; 39356 MW; E44EC56B CRC32;
358 AA
                                                       Created)
  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HYPOTHETICAL 30.2 KD PROTEIN
                                               01-JUN-1998 (TrEMBLrel. 06, 01-JUN-1998 (TrEMBLrel. 06, 01-NOV-1999 (TrEMBLrel. 12,
PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nature 368:32-38(1994).
                                                                                                                                                                                    Caenorhabditis elegans.
                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                  MOIES.2 PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          315 GKSPEEE 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              188 GKSPFEQ 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Archaeoglobus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        elegans.
                           045691;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            T 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   029937;
                                                                                                                                                                                                                                                                                                                           DOBSON
                                                                                                                                                             M01E5.2
```

```
SHEUGT1A6.
                                                                                                                                                            NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LT 9
Q9XS55
Q9XS55;
                                                                                                                                                                                                                                                                                                                                   LT 8
096387
096387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ä
                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
TISSUE-EMBRYONIC AND IMAGINAL DISC;
GREGORY S.L., BROWN N.H.;
"kakapo, a Gene Required for Adhesion Between and Within Cell Layers
in Drosophila, Encodes a Large Cytoskeletal Linker Protein Related to
Plectin and Dystrophin.";
Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
EMBL, AJ011925; CAA09870.1; -.
HSSP; Q01082; IAA2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      851 IPGACLLLPPP-DQEAIDAAERLKRLFDRSVALWQKKHLRLRQNMIFATIRVVKG-WDFD 908
                                                                                                                                                   Drosophila melanogaster (Fruit fly).
Bukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                        190 EYFPEFKASVIRTNVQFSPDMPLEERLKI--IKNEVGKDFYKKLMEINEEDMVLWEKVVD 247
                                                                                                                   Gaps
         "The complete genome sequence of the hyperthermophilic, sulphatereducing archaeon Archaeoglobus fulgidus.";
Nature 390:364-370(1997).
EMBL; AE001083; AAB90927.1; -.
HYGR; AE0307; -.
Hypothetical protein.
SEQUENCE 253 AA; 30215 MW; EE14DFE4 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3;
                                                                                                                    5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 102, DB 5; Length 2285;
Pred. No. 3.35e-01;
22; Mismatches 25; Indels 3
                                                                                            Score 101; DB 1; Length 253; Pred. No. 4.58e-01; 15; Mismatches 21; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-NOV-1999 (TrEMBLrel. 12, Last annotation update)
                                                                                                                                                                                                                                                                                   Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           262579 MW; 5F6DAB32 CRC32;
                                                                                                                                                                                                                                                  2285 AA
                                                                                                                                                                                                                                                                         Created)
                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSSP; Q01082; 1AA2.
PFAM; PF00307; CH; 2.
PFAM; PF00018; SH3; 1.
PFAM; PF00435; spectrin; 15.
NON_TER 2285 2285
SEQUENCE 2285 AA; 262579 MV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 6.0%;
Best Local Similarity 26.5%;
Matches 18; Conservative
                                                                                                                                                                                                                                                                       (TrEMBLrel. 08, (TrEMBLrel. 08, (TrEMBLrel. 12,
                                                                                             Match 6.0%;
Local Similarity 33.9%;
Les 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                       .T 6 PRELIMINARY; 077292; 01-NOV-1998 (Tremble).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KAKAPO (FRAGMENT).
                                                                                                                                                                                                                                                                                                         KAKAPO (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ||| :|:
194 QFLKNSPD 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       909 QFLAMGPE 916
                                                                                                                                                                                                                                                                                  01-NOV-1998
01-NOV-1999
  VENTER J.C.;
                                                                                                                                                                                    248 MY 249
                                                                                                                                                                                                        120 MY 121
                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  077291;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      077291
                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SS GE DI DI SC
                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                  g
   a
                                                                                                                                                               ŏ
                                                                                                                                                                                                        ò
```

```
ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              962 IPGACLLLPPP-DQEAIDAAERLKRLFDRSVALWQKKHLRLRQNMIFATIRVVKG-WDFD 1019
                                                                                                                  TISSUB-EMBRYONIC AND IMAGINAL DISC;
GREGORY S.L., BROWN N.H.;
GREGORY S.L., BROWN N.H.;
I'RAKARO, a Gene Required for Adhesion Between and Within Cell Layers
in Drosophila, Encodes a Large Cytoskeletal Linker Protein Related to
Plectin and Dystrophin.";
Submitted (CCT-1998) to the EMBL/GenBank/DDBJ databases.
EMBL, AJ011924; CAA09869.1; -.
PRAM; PF00307; CH; 2.
PFAM; PF00018; SH3; 1.
PFAM; PF00018; SH3; 1.
PFAM; PF00018; SPectrin; 15.
PFAM; PF00418; Spectrin; 15.
DNN_TER 2396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14 VMSYTYDVII-CMPGYIDFALSDIDLTNNMTDNITLKTPVISSPMDTVTGHKMSIALALS 72
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ovis aries (Sheep).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Э,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 102; DB 5; Length 2396;
Pred. No. 3.35e-01;
22; Mismatches 25; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 5.9%; Score 100; DB 5; Length 510; Best Local Similarity 21.2%; Pred. No. 6.25e-01; Matches 18; Conservative 26; Mismatches 38; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    [1]
SEQUENCE FROM N.A.
PROSISE G.L., JAMES A.A., LUECKE H.;
PROSISE G.L., JAMES A.A., LUECKE H.;
Submitted (NOV-1997) to the EMBL/GenBank/DDBJ databases.
BMBL, AR035679; AAD10256.1; -.
HSSP: P50097: 1AK5.
PROSITE; P500487; IMP_DH_GMP_RED; 1.
PROSITE; P500487; IMP_DH_GMP_RED; 1.
PROSITE; P500487; IMP_DH_GMP_RED; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-NOV-1999 (TrEMBLrel. 12, Last annotation update)
INOSINE-5. -MONOPHOSPHATE DEHYDROGENASE.
Plasmodium falciparum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-NOV-1999 (TrEMBLrel. 12, Last annotation update)
UDP-GLUCURONOSYLTRANSFERASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2396 AA; 274955 MW; 2D316313 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            531 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         510 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                107 GTTGAVLGQKAFDMYSGDVMHLVKF 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             73 GGLGVIHNNMSIEKQIEEVKKVKRF 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 6.0%;
Best Local Similarity 26.5%;
Matches 18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1020 QFLAMGPE 1027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      194 QFLKNSPD 201
```

```
PHA SYNTHASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LT 12
Q9Z1K1
Q9Z1K1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JT 13
052072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        052072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HS1 BIN
HS1BP3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT

1D

05

AC

05

DT

01

DT

01

DE

PH

OC

Ba

OC

BA

OC

RR

RR

RA

HP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 99; DB 6; Length 532;
Pred. No. 8.52e-01;
36; Mismatches 43; Indels 10; Gaps 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                345 KNTKLVKWLPQNDLLGQPKT-R-AFITH-SGSHGVYEGICNGVPMVMMP-L-FGDQMDNA 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            346 KNTKLVKWLPQNDLLGQPKT-R-AFITH-SGSHGVYEGICNGVPMVMMP-L-FGDQMDNA 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDITINE: 99208485.

KOBATASHI T., TATANA A., YOKOTA H., ONAGA T., WATANABE T., YUASA A.;

"Small intestinal UDP-glucuronosyltransferase sheUGI1A07: partial
purification and cDNA cloning from sheep small intestine.";

Arch. Blochem. Blochem. Blophys. 364:143-152(1999).

EMBL: AB018478; BAA77458.1;
PROSITE; PS00375; UDPGT; 1.
                                                                                                                                                     KOBAVASHI T., TATANO A., YOKOTA H., ONAGA T., WATANABE T., YUASA A.; "Small intestinal UDP-glucuronosyltransferase sheUGTIA07: partial purification and cDNA cloning from sheep small intestine."; Arch. Biochem. Biophys. 364:143-152(1999).
BRBL, AB018477; BAA774571; -.
PROSITE; PS00375; UDPGT; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             32 KTIRLPRWLASPTKEIQVKKYKCGLIKPCPANYFAFK-ICSGAANVVGPTMCFEDRMIMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | :| :| | : | | : | | : | :| | :| :| 32 KTIRLPRWLASPTKEIQVKKYKCGLIKPCPANYFAFK-ICSGAANVVGPTMCFEDRMIMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   91 PVKNNVGRGLNIALVNGTTGAVLGQ-KA-F-DM-YSGDVWHLVKFIKEIPGGALVL 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         401 ERMETRGAGITLNVLEMSSGDLENALKAVINEKSYKENIMRLSRLHKDRPIEPLDL 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           400 ERMETRGAGITLNVLEMSSGDLENALKAVINEKSYKENIMRLSRLHKDRPIEPLDL 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 99; DB 6; Length 531;
Pred. No. 8.52e-01;
36; Mismatches 43; Indels 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 532 AA; 60718 MW; F0E85701 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                     531 AA; 60823 MW; DC5D6014 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    386 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         532 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1999 (Tremblrel, 12, 01-NOV-1999 (Tremblrel, 12, 01-NOV-1999 (Tremblrel, 12, UDP-GLUCURONOSYLTRANSFERASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            082844;
01-NOV-1998 (TrEMBLrel. 08,
01-NOV-1999 (TrEMBLrel. 08,
01-NOV-1999 (TrEMBLrel. 12,
XYLOSE REPRESSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                               Match 5.9%;
Local Similarity 23.3%;
Les 27; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity 23.3%;
les 27; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                             FROM N.A.
                                                                                                                          99208485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-SAFORK
                                                                                                  STRAIN-SAFORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Transferase
                                                                                                                                                                                                                                                                                                                                                          Transferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SHEUGT1A07
   Caprinae;
                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                      SEQUENCE
                                                                                                                             MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SECUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27 10
09x556
09x556;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JT 11
082844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT

1D 08

AC 08

DT 01

DT 01

DE X1

GN X1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
OC REA REA DE RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCOCCOS OF THE STANDARD OF TH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ij
                                                                                                                                                                                                                                                                         TAKEDA Y., TAKASE K., YAMATO I., ABE K.;

TAKEDA Y., TAKASE K., YAMATO I., ABE K.;

"Sequencing and characterization of the xyl operon of a gram-positive bacterium, Tetragenococcus halophila.";

Appl. Environ. Microbiol. 64:2513-2519(1998).

EMBL; AB009553; BAA31870.1;

PROSITE; PS01125; RK; 1.

SEQUENCE 386 AA; 43426 MW; B2B31CBB CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               290 EVIQLLKNNAKLISIGVNNIVSMYDPETVVINNELYREIPDLINVIEKHLTRRNNRNVFI 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
Tetragenococcus halophilus (Pediococcus halophilus).
Bacteria; Firmicutes; Bacillus/Clostridium group; Lactobacillaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN-BALB/C;
TAKEMOTO Y., FURUTA M., SATO M., HASHIMOTO Y.;
"Isolation and characterization of a novel HS1 SH3 domain binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Mammalia,
Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
Actinomycetales; Corynebacterineae; Nocardiaceae; Nocardia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5.8%; Score 98; DB 2; Length 386; 9.6%; Pred. No. 1.16e+00; tive 19; Mismatches 29; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11; Mismatches 17; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein, HSIBF3.";
Submitted (JAN-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ132192; CAA10600.1;
SEQUENCE 396 AA, 43769 WW; ODCA7DDE CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98 LFVGESDIRERRAMFDEILRCVSKDAQLAGSPELLEFLGTRAP 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    :|:| | :| : |:::|: ; | : : | : : | : : | : : | : : | : : | : : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : : | : : : | : : : | : : : | : : | : : | : : | : : : | : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : : | : : | : : : | : : | : : | : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : : | : : : | : : : | : : : : | : : : : : | : : : : | : : : : | : : : | : : : : | : : : : | : : : : | : : : : : | : : : : : : | :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 97; DB 11;
Pred. No. 1.57e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        396 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Æ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   [1]
SEQUENCE FROM N.A.
HALL B., BALDWIN J., RHIE H.G., DENNIS D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06,
06,
10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAY 1999 (TrEMBLrel. 10, 01-MAY-1999 (TrEMBLrel. 10, 01-MAY-1999 (TrEMBLrel. 10, HSI BINDING PROTEIN 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        . Match 5.8%;
Local Similarity 32.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 29.6%;
Matches 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUN-1998 (TrEMBLrel.
01-JUN-1998 (TrEMBLrel.
01-MAY-1999 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         350 KNTSLEDKTTL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              182 GAKDLRGKSPF 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nocardia corallina.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                         Tetragenococcus.
```

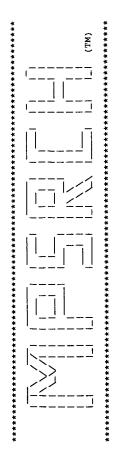
```
JOHNSON D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                        elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Search cor
Job time
     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7;
                                                                                                                                                                         3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   990 VVAAVEPTVVKGTIAIPVGMGRWADSAVKKPAYFRLNDGSVAALVS---ELPDGA-SLPS 1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KLETCHUM K.A., DODSON R.J., TOMB J.-F., WHITE O., NELSON K.E.,
KETCHUM K.A., DODSON R.J., GWINN M., HICKEY E.K., PETERSON J.D.,
RICHARDSON D.L., KERLAYAGE A.R., GRAHAM D.E., KYRPLDES N.C.,
FLEISCHMANN R.D., QUACKENBUSH J., LEE N.H., SUTTON G.G., GILL S.,
KIRKNESS E.F., DOUGHERTY B.A., MCKENNEY K., ADAMS M.D., LOFTUS B.,
PETERSON S., REICH C.I., MCNEIL L.K., BADGER J.H., GLODEK A., ZHOU L.,
OVERBEEK R., GOGAYNE J.D., WEIDMAN J.F., MCDONALD L., OTTERBACK T.,
COTTON M.D., SPRIGGS T., ARTIACH P., KAINE B.P., SYKES S.M.,
AASON P.W., D'ANDREA K.P., BOWMAN C., FUJII C., GARLAND S.A.,
MASON T.M., OLSEN G.J., FRASER C.M., SMITH H.O., WOESE C.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  88 IMSPVKNNVGRG-LNIALVNGT-TGAVLGOKA-FDMYSGDVMHLVKFLKEIPGGALVLVA 144
                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Caenorhabditis elegans.
Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditida; Rhabditida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "The complete genome sequence of the hyperthermophilic, sulphate-reducing archaeon Archaeoglobus fulgidus.";
Nature 390:364-370(1997).
                                                                                                                                                                                                                       239 VEYSVGRGLQTFLLSWRNPTAEQGDWDFDTYAGRVIRAIDEVREITGSDDVNLIG 293
                                                                                                                                                                                                                                                       | :||||| |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |:: | |::
                                                                                                                                                                         ;
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6
                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
01-NOV-1999 (TrEMBLrel. 12, Last annotation update)
MOLYBDOPTERIN OXIDOREDUCTASE, MOLYBDOPTERIN BINDING SUBUNIT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 97; DB 1; Length 1134;
Pred. No. 1.57e+00;
23; Mismatches 40; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Archaeoglobus fulgidus.
Archaea; Euryarchaeota; Archaeoglobales; Archaeoglobaceae;
                                                                                                                     Score 97; DB 2; Length 561;
Pred. No. 1.57e+00;
13; Mismatches 21; Indels
  to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1046 DAVNPVKQLDETKKRILFTKSDRRYYDDLGI-DSWRFSG 1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     145 SYDDPGTKMNDESRK-LFSDLGSSYAKQLGFRDSWVFIG 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E6FF75AE CRC32;
                                                 PFAM; PF00561; abhydrolase; 1.
SEQUENCE 561 AA; 60406 MW; 7A21B91A CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Æ
                                                                                                                                                                                                                                                                                                                                                                              PRT; 1134 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
STRAIN-VC-16 / DSM 4304 / ATCC 49558;
MEDLINE; 98049343.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AF0159; -. PF01568; Molydop_binding; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical protein.
SEQUENCE 1134 AA; 127688 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AE001095; AAB91069.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                (TrEMBLrel. 05, (TrEMBLrel. 05,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-NOV-1996 (TrEMBLrel. 01, 01-NOV-1996 (TrEMBLrel. 01, 01-NOV-1998 (TrEMBLrel. 08,
                                                                                                                     / Match 5.8%;
Local Similarity 34.5%;
les 19; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ouery Match
Best Local Similarity 27.38;
                          EMBL; AF019964; AAB94058.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
Submitted (AUG-1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Archaeoglobus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COSMID C25H3.
                                                                                                                                                                                                                                                                                                                                                                                                                                01-JAN-1998
                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LT 15
Q18188
Q18188;
                                                                                                                                                                                                                                                                                                                                                  JT 14
030078
030078;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rigr;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PFAM;
                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ID DI DI OC OC OC OC OC
                                                                                                                                                                                                                                                                                                                                                                              S DR S
                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
```

```
WILSON R., AINSCOUGH R., ANDERSON K., BAYNES C., BERKS M.,
BONFIELD J., BURTON J., CONNELL M., COPERY T., COOPER J., COULSON A.,
CRAXTON M., DEAR S., DU Z., DURBIN R., FAVELLO A., FULTON L.,
GARDNER A., GREEN P., HAWKINS T., HILLIER L., JIER M., JOHNSTON L.,
JONES M., KERSHAM J., KIRSTEN J., LAISTER N., LATREILLE P.,
LIGHTNING J., LLOYD C., MCMURRAY A., MORTIMORE B., O'CALLAGHAN M.,
PARSONS J., PERCY C., RIFKEN L., SOOPRA A., SAUNDERS D., SHOWNKEEN R.,
SMALDON N., SMITH A., SONNHAMMER E., STADEN R., SULSTON J.,
THIERRY-MIEG J., THOMAS K., VAUDIN M., VAUGHAN K., WATERSTON R.,
WATSON A., WEINSTOCK L., WILKINSON-SPROAT J., WOHLDMAN P.;
22. Mb of contiguous nucleotide sequence from chromosome III of C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .;
m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 96; DB 5; Length 269;
Pred. No. 2.12e+00;
11; Mismatches 14; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (JUN-1995) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 148 NQESRNFYHPLSGDHFRK--FRGDWLEIGQNRLRS-SDISTFLKN 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; U29535; AAA68788.1; -.
SEQUENCE 269 AA; 31750 MW; 6158031C CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                / Match 5.7%;
Local Similarity 37.8%;
nes 17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nature 368:32-38(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WATERSTON R.;
Submitted (JUN-1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-BRISTOL N2;
                                                             SEQUENCE FROM N.A.
STRAIN-BRISTOL N2;
MEDLINE; 94150718.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
```

Search completed: Wed May 31 11:05:21 2000 Job time : 26 secs.

ñ

		·
		:
		<i>•</i>



Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd

protein - protein database search, using Smith-Waterman algorithm Wed May 31 11:04:26 2000; MasPar time 8.90 Seconds 762.806 Million cell updates/sec MPsrch_pp

Tabular output not generated.

Run on:

1 MRVSGVLRLLALIFAIVTTW....., KYEGWPELLEMEGCMPPKPF 223 >US-09-186-342-2 (1-223) from US09186342.pep 1686 Title: Description: Perfect Score: Sequence:

PAM 150 Gap 11 Scoring table:

83857 seqs, 30454973 residues Searched:

Post-processing:

Minimum Match 0% Listing first 45 summaries

swiss-prot38 1:swissprot Database:

Mean 47.338; Variance 81.778; scale 0.579 Statistics: Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Pred. No.	2.14e-179	9.26e-167	3.13e-120	6.70e-02	8.83e-01	8.83e - 01	1.21e+00	1.21e+00	1.21e+00	1.21e+00	3.01e+00	4.07e+00	4.07e+00	4.07e+00	4.07e+00	7.34e+00	5.47e+00	7.34e+00	7.34e+00	5.47e+00	7.34e+00	5.47e+00	5.47e+00
Description	2-19 PROTEIN PRECURSOR	PROTEIN GS3786.	ONCOPROTEIN INDUCED PR	PUTATIVE STEROID DEHYD	56 KD TYPE-SPECIFIC AN	56 KD TYPE-SPECIFIC AN	HYPOTHETICAL PROTEIN H	N-(5'-PHOSPHORIBOSYL)A	N-FORMYL PEPTIDE RECEP	CHITIN SYNTHASE 3 (EC	SOMATOTROPIN PRECURSOR	MITOCHONDRIAL THIOREDO	ANAEROBIC DIMETHYL SUL	HYPOTHETICAL 41.5 KD P	4 - COUMARATE COA LIGAS	ARTA PROTEIN.	HYPOTHETICAL 15.4 KD P	FPLEFT PROTEIN (FRAGME	SOMATOTROPIN PRECURSOR	MOVEMENT PROTEIN (CELL	SHAKING-B PROTEIN PREC	CREATINASE (EC 3.5.3.3	HYPOTHETICAL 47.6 KD P
DI	219_HUMAN	G786 HUMAN	OIT1 MOUSE	DHBK_MOUSE	TSAW_RICTS	TSAK_RICTS	Y48A_HAEIN	TRPF_YEAST	FML2_MACMU	CHS3_EXODE	SOMA_TRIVU	THI2_BOVIN	DMSC_ECOLI	YAM3_SCHPO	4CL_ORYSA	ARTA_ECOLI	YMFS_ECOLI	VFPL_FOWP1	SOMA_SEROU	MOVP_TMGMV	SHAK_DROME	CREA_BACSP	YMI4_CAEEL
DB	-	-	٦	7	ч	7		٦	Н	Н	Н	-	-4	Н	٦		~	Н	Ч	-	7	٦	٦
* Query Match Length DB	230	227	115	312	522	532	124	224	349	882	215	166	287	382	563	104	137	159	204	256	361	410	428
% Query Match	53.9	50.7	39.0	6.2	5.7	5.7	5.6	5.6	5.6	5.6	5.5	5.4	5.4	5.4	5.4	5.3	5.3	5.3	5,3	5.3	5.3	5.3	5.3
Score	806	855	658	104	96	96	95	95	95	95	92	91	91	91	91	83	90	8	89	90	8	90	90
Result No.	7	7	m	4	2	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23

5.47e+00 5.47e+00	7.34e+00	7.34e+00	9.82e+00	1.31e+01	9.82e+00	1.31e+01	9.82e+00	9.82e+00	9.82e+00	1.31e+01	1.31e+01	1.31e+01	9.82e+00	1.31e+01	1.31e+01	1.31e+01	1.31e+01	1.31e+01	9.82e+00	1.74e+01
NAD(P) TRANSHYDROGENAS 6PF-2-K/FRU-2,6-P2ASE	PUTATIVE CDP-DIACYLGLY	GLYCEROL-3-PHOSPHATE D	MITOCHONDRIAL THIOREDO	PROBABLE 6-PHOSPHO-BET	SOMATOTROPIN PRECURSOR	X INACTIVE SPECIFIC TR	HYPOTHETICAL PROTEIN M	HYPOTHETICAL PROTEIN H	PROBABLE ATP-DEPENDENT	6PF-2-K/FRU-2,6-P2ASE	WD-REPEAT PROTEIN SAZD	HOMEOBOX PROTEIN DIH-1	PUTATIVE TRANSPORTER C	HYPOTHETICAL 70.6 KD P	AMILORIDE-SENSITIVE SO	CYCLOMALTODEXTRIN GLUC	DOLICHYL-PHOSPHATE-MAN	MAJOR VAULT PROTEIN (M	GENOME POLYPROTEIN [CO	ALANYL-TRNA SYNTHETASE
PNTB_ECOLI F263_RAT	PEL1_YEAST	GPDM_YEAST	THI2_RAT	GLVG_ECOLI	SOMA SHEEP	XIST_MOUSE	Y381_METJA	Y285_HELPY	DBP8_YEAST	F263_HUMAN	SAZD_HUMAN	HMH1_DUGTI	YE1F_SCHPO	YGC3_YEAST	SCAB_HUMAN	CDGT_BACSP	PMT2_YEAST	MVP_RAT	POLG_MVEV	SYA_THIFE
	-	Н	-	-	г	7	7	Н	r-i	Н	, ,	Н	~	Н	Н	-		~	Н	1
462	518	649	166	212	217	298	320	418	431	468	519	533	628	635	640	713	758	882	1780	877
55.3 5.3	5.3	5.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1
06	68	8	88	87	88	87	88	88	88	87	87	87	88	87	87	87	87	87	88	98
24	26	27	78	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

THE STATE OF THE S
--

```
LT 3
OIT1_MOUSE
P97805;
                                                                                                                                                                                                                                                                                                                                                                                                                          NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                              Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                           염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
                                                                                       ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4;
                                                                                                                                                                                                                       61 LPQPCPEEHLAFRVVSGAANVIGPKICLEDKMLMSSVKDNVGRGLNIALVNGVSGELIEA 120
                                                                                                                                                                         | ||| : :||::||||||:|:||
LIKPCPANYFAFKICSGAANVVGFTMCFEDRMIMSPVKNNVGRGLNIALVNGTTGAVLGQ 115
                                                                                                                                                                                                            RAFDMWAGDVNDLLKFIRPLHEGTLVFVASYDDPATKMNEETRKLFSELGSRNAKELAFR 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 YFDMWGGDVAPFIEFLKAIQDGTIVLMGTYDDGATKLNDEARRLIADLGSTSITNLGFRD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SKACPEKHFAFKMASGAANVVGPKICLEDNVLMSGVKNNVGRGINVALANGKTGEVLDTK 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MRLAGPLRIVVLVVSVGVTWIVVSILLGGPGSGFPRIQQLFTSPESSVTAAPRARKYKCG 60
                                                                                                                          1 MRVAGAAKLVVAVAVFLLTFYVISQVFEIKMDASLGNLFARSALDTAARSTRPPRYKCGI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Onto I., Hashimoto J., Takaoka K., Ochi T., Okubo K., Matsubara K.;
Submitted (AUG-1996) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: BELONGS TO THE 2-19 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4; Gaps
                                                                                      .;
2
                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                             Length 230;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     50.7%; Score 855; DB 1; Length 227; Larity 51.6%; Pred. No. 9.26e-167; Conservative 49; Mismatches 56; Indels
                                                                                      Indels
                                                                                                                                                                                                                                                                       49; Mismatches 56; Indels
                                                                                                                                                                                                                                                          181 DSWVFVGAKGVQNKSPFEQHVKNSKHSNKYEGCPEALEMEGCIPRRS 227
           33 POTENTIAL.
230 2-19 PROTEIN.
25069 MW; FE3934D91F98CAAD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; D87120; BAA13251.1; -.
SEQUENCE 227 AA; 24680 MW; 6DC94B259052647F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NWVFCGGKGIKTKSPFEQHIKNNKDTNKYEGWPEVVEMEGCIPQK 225
                                                                                     56; Mismatches 45;
                                                            Score 908; DB 1; I
Pred. No. 2.14e-179;
                                                                                                                                                                                                                                                                                                                                                          15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-FEB-2000 (Rel. 39, Last annotation update)
PROFEIN GS3786.
                                                                                                                                                                                                                                                                                                                                    227 AA
                                                                                                                                                                                                                                                                                                                                     PRT;
                                                          Query Match
Best Local Similarity 53.3%;
Matches 121; Conservative
                                                                                                                                                                                                                                                                                                                                    STANDARD;
           34 2:
230 AA;
                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
hes 116; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE-BONE
                                                                                                                                                                                                                                                                                                                                 G786_HUMAN
092520;
                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Signal.
SIGNAL
                                                                                                                                                                                   26
                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                       RESULT
W F F S
                                                                                                           g
                                                                                                                                     ô
                                                                                                                                                         셤
                                                                                                                                                                                   ò
                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                    음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
```

177

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 TGQVMKKDSFDMYSGDPQLLLNFLTEIPDSTLVLVASYDDPGTKMNDKIKTLFSNLGSSY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-BALD/C; TISSUE-LIVER;
Gambotto A., Pagliano O., Robbins P., Deleo A.;
Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: BELONGS TO THE SHORT-CHAIN DEHYDROGENASES/REDUCTASES
(SDR) FAMILY. 17-BETA-HSD 3 SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia;
Mus.
                                                                                                                                                                                       Eukaryota; Medazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                    Fu X., Kamps M.P., "E2a-Pbx1 induces aberrant expression of tissue-specific and developmentally regulated genes when expressed in NIH 3T3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         39.0%; Score 658; DB 1; Length 115;
larity 73.5%; Pred. No. 3.13e-120;
Conservative 17; Mismatches 13; Indels
                                         15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-FEB-2000 (Rel. 39, Last annotation update)
ONCOPROTEIN INDUCED PROTEIN I (PROTEIN EF-7) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           115 AA; 13022 MW; DDF764E950B4EABC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Metazoa, Chordata, Craniata, Vertebrata,
Eutheria, Rodentia, Sclurognathi, Muridae, Murinae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-DEC-1998 (Rel. 37, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
PUTATIVE STEROID DEHYDROGENASE KIK-I (EC 1.1.1.-).
115 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             312 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                         Mol. Cell. Biol. 17:1503-1512(1997).
-!- SIMILARITY: BELONGS TO THE 2-19 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequ
15-JUL-1999 (Rel. 38, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; U72677; AAB51037.1; -.
STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MGD; MGI:1201784; OIT1
                                                                                                                                                                       musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
les 83; Conser
                                                                                                                                                                                                                                                                                         STRAIN-BALB/C;
MEDLINE; 97184476.
                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DHBK_MOUSE
```

NP_BIND ACT_SITE SEQUENCE

Query Match

Matches

g

ò

RESULT

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its mach by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                            STRAIN-KARK;

MEDLINE; 90307205.

Stover C.K., Marana D.P., Carter J.M., Roe B.A., Mardis E.,

Stover C.K., Marana D.P., Carter J.M., Roe B.A., Mardis E.,

Oaks E.V.;

"The 56-kilodalton major protein antigen of Rickettsia tsutsugamushi:
molecular cloning and sequence analysis of the sta56 gene and precise
identification of a strain-specific epitope.";

Infect. Immun. 58:2076-2084(1990).

Infect. Immun. 58:2076-2084(1990).

Infect. Immun. 58:2076-2084(1990).

ITHE HOST-CELL SURFACE AND A DETERMINANT OF VIRULENCE OF INDIVIDUAL
RICKETTSIAL STRAIN. IT IS THE MAJOR OUTER MEMBRANE PROTEIN.

ISTREELIGIAR LOCATION: INTEGRAL MEMBRANE PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               263 VLSDKITQIYS-DIKHLADIAGIDVPDTSLPNSASVEQIQNKMQELN-DLLEELRESFDG 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F., Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M.,
                                                        01-0CT-1994 (Rel. 30, Created)
01-0CT-1994 (Rel. 30, Last sequence update)
01-FEB-1995 (Rel. 31, Last annotation update)
56 FD TYPE-SPECIFIC ANTIGEN PRECURSOR (TSA) (56 FD SCRUB TYPHUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacteria; Proteobacteria; gamma subdivision; Pasteurellaceae;
Haemophilus.
                                                                                                                                                                                Bacteria; Proteobacteria; alpha subdivision; Rickettsiales;
Rickettsiaceae; Rickettsieae; Orientia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 96; DB 1; Length 532;
Pred. No. 8.83e-01;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17; Mismatches 24; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              56 KD TYPE-SPECIFIC ANTIGEN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B63F4BE5CF917638 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-FEB-2000 (Rel. 39, Created)
15-FEB-2000 (Rel. 39, Last sequence update)
15-FEB-2000 (Rel. 39, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       124 AA
                   532 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Antigen; Signal; Transmembrane; Virulence.
SIGNAL 1 22 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALA/GLN-RICH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HYPOTHETICAL PROTEIN HI0485.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 56785 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; M33004; AAA26391.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.7%;
ilarity 30.2%;
Conservative
                                                                                                                                                ANTIGEN) (STA56) (TSK56).
                                                                                                                                                                 Rickettsia tsutsugamushi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HI0485.1.
Haemophilus influenzae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        87
500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              532
364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      67
480
532 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
Matches 19; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=RD / KW20;
MEDLINE; 95350630.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               321 YLG 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      171 QLG 173
                                                                                                                                                                                                                                                                          STRAIN-KARP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y48A_HAEIN
086225;
                   TSAK_RICTS
P37915;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its most by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  э,
Э
                                                                                                                                                                                                                                                                                                  4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ohashi N., Nashimoto H., Ikeda H., Tamura A.;

"Diversity of immunodominant 56-kDa type-specific antigen (TSA) of Rickettsia tsutsugamushi. Sequence and comparative analyses of the genes encoding TSA homologues from four antigenic variants.";

J. Biol. Chem. 267:12728-12735(1992).

-I-FUNCTION: MAY BE AN ADHERENT FACTOR FOR RICKETTSIAL ADSORPTION TO THE HOST-CELL SURFACE AND A DETERMINANT OF VIRULENCE OF INDIVIDUAL RICKETTSIAL STRAIN. IT IS THE MAJOR OUTER MEMBRANE PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  252 VLSDKITQIYS-DIRQFAKIANIEVPGAPLPNSASVEQIQTKMQELN-DVLEELRESF 307
                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-00T-1994 (Rel. 30, Created)
01-0CT-1994 (Rel. 30, Last sequence update)
01-FEB-1995 (Rel. 31, Last annotation update)
56 KD TYPE-SPECIFIC ANTIGEN PRECURSOR (TSA) (56 KD SCRUB TYPHUS
                                                                                                                                                                                                                                                                                                  4;
                                                                                                      PROSITE; PS00061; ADH_SHORT; 1.
PFAM; PF00106; adh_Short; 1.
Steroid biosynthesis; Oxidoreductase; NADP; Multigene family.
NP_BEND 50 79 NADP (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bacteria; Proteobacteria; alpha subdivision; Rickettsiales;
Rickettsiaceae; Rickettsieae; Orientia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No. 8.83e-01;
20; Mismatches 17; Indels
                                                                                                                                                                                                                                                        Length 312;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL.
56 KD TYPE-SPECIFIC ANTIGEN.
ALA/GLN-RICH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 522;
                                                                                                                                                                                                                                                                                                                                       268 RTTGYVIHSLMGSINSIMPRWMYFKIIMGFS-KSLR-NRYLKKRKKN 312
                                                                                                                                                                                                                                                                                                                                                               2 RVSG-VLR-LLALIFAIVTTWMFIRSYMSFSMKTIRLPRWLASPTKE 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64CB0E3B1B5A2EB6 CRC64;
                                                                                                                                                                                         BY SIMILARITY.
7D255188FA1F8DDB CRC64;
                                                                                                                                                                                                                                                      Score 104; DB 1; Pred. No. 6.70e-02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 1;
                                                                                                                                                                                                                                                                                                14; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   522 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIR; B42804; B42804.
Antigen; Signal; Transmembrane; Virulence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                  EMBL; AF064635; AAC16885.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55971 MW;
                                                                                                                                                                                         202 202 E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; M63383; AAA26398.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 5.7%;
Best Local Similarity 31.0%;
Matches 18; Conservative
                                                                                                                                                                                                                                                      Match 6.2%;
Local Similarity 34.0%;
les 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ANTIGEN) (STA56) (TSW56).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rickettsia tsutsugamushi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23
324
67
470
522 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE; 92316959.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-KAWASAKI;
                                                                                                                                                                                                                                                                                                                                                                                                                                              LT 5
TSAW_RICTS
```

TRANSMEM TRANSMEM SEQUENCE

> 셤 ò

SIGNAL DOMAIN CHAIN

Gaps

3;

```
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ij
                                                                                                                                                                                                                                                                                                White O., Clayton R.A., Kerlavage A.R., Fleischmann R.D., Peterson J., Hickey E., Dodson R., Gwinn M.; Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tschumper G., Carbon J.; "Sequence of a yeast DNA fragment containing a chromosomal replicator and the TRP1 gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
McKenney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D., Scott J.D., Shirley R., Liu L. I., Glodek A., Kelley J.M., Weddman J.F., Phillips C.A., Spriges T., Hedblom E., Cotton M.D., Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R.C. Fine L.D., Fritchman J.L., Geoghagen N.S.M., Geoffan C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Saccharomyces cerevisiae (Baker's yeast).
Bukaryota; Fungi; Ascomycota; Saccharomycetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence update)
15-FBB-2000 (Rel. 39, Last annotation update)
N-(5'-PHOSPHORIBOSYL)ANTHRANILATE ISOMERASE (EC 5.3.1.24) (PRAI)
TRP1 OR YDR007W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-S288C / AB972;
Murphy L., Richards C., Gentles S., Harris D., Barrell B.G.,
Rajandream M.A.;
Submitted (JAN-1995) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                             "Whole-genome random sequencing and assembly of Haemophilus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 95; DB 1; Length 124;
Pred. No. 1.21e+00;
14; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Brunelli J.P., Hilgers L., Pall M.L.;
Submitted (XXX-1991) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E4D867EDA4FB4C3E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       224 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     75 RAEAIKFILTMVFIIIAIKWLFVINFIAF 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               105 P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; U32730; AAC22145.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 206-224 FROM N.A. MEDLINE; 87065038.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 68-224 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.6%;
Similarity 24.1%;
7; Conservative
                                                                                                                                                                                                                              Science 269:496-512(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gene 10:157-166(1980).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         124 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 7; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    80225748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HI0485.1;
                                                                                                                                                                                                                                                     [2]
IDENTIFICATION.
                                                                                                                                                                                                       Influenzae Rd
                                                                                                                                                         Venter J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRPF_YEAST P00912;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SECUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TIGR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
       RAPARA RAPARA PRAPARA 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 KAYKNSSGTPKYLVGVFRNQPKEDVLALVNDYGIDIVQLHGDESWQEYQEFLGLPVIKRL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         non-human primates.;
Immunogenetics 44:446-452(1996).
Immunogenetics 44:446-452(1996).

-!- FUNCTION: LOW AFFINITY RECEPTOR TO N-FORMYL-WETHIONYL PEPTIDES, WHICH ARE POWERRUL WEUTROPHILS CHEMOTACTIC FACTORS. BINDING OF FMLP TO THE RECEPTOR CAUGES ACTIVATION OF NEUTROPHILS. THIS RESPONSE IS MEDIATED VIA A G-PROTEIN THAT ACTIVATES A PHOSPHATIOYLINOSITOL-CALCIUM SECOND MESSENGER SYSTEM.
-!- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN.
-!- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alvarez V., Coto E., Sehen F., Gouzalek-Koces S., Lopez-Larrea C., "Molecular evolution of the N-formyl peptide and C5a receptors in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Cercopithecidae; Cercopithecinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4;
Snyder M., Buchman A.R., Davis R.W.;
Bent Dna at a yeast autonomously replicating sequence.";
"ature 324:87-89(1986).
-i- CATALYTIC ACTIVITY: N-(5'-PHOSPHORIBOSYL)-ANTHRANILATE 1-(2-CARBOXYPHENYLAMINO)-1-DESOXY-RIBULOSE 5-PHOSPHATE.
-i- PATHWAY: THIRD STEP IN TRYPTOPHAN BIOSYNTHESIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 95; DB 1; Length 224;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; M30380; ......
PIR; A01135; ISBYN.
HSSP: 056320; INSJ.
SGD; L0002322; TRP1.
PFAM; PF00667; PRAI; 1.
Isomerase; Tryptophan biosynthesis.

Isomerase; Tryptophan biosynthesis.

1 -> S (IN REF. 2).

3158 MW; CEEDBOEEF4F97911 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21; Mismatches 47; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
N-FORMYL PEPTIDE RECEPTOR-LIKE 2 RECEPTOR (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. 1.21e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 VFPKDCNILLSAASQKPHSFIPLFDSEAGGTGELLDW 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              349 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Macaca mulatta (Rhesus macaque)
                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; V01341; CAA24634.1; -. EMBL; J01374; AAA88758.1; -. EMBL; M74015; AAA72097.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; Z48008; CAA88068.1; -. EMBL; M30386; AAA18406.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 / Match 5.6%;
Local Similarity 25.8%;
nes 25; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. MEDLINE; 96421539.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FML2_MACMU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Macaca
```

```
CONTROL
                                                                                                                                                                                                                                                                                                         SOMA_TRIVU
062754;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DISULFID
                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIGNAL
                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                      ò
entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                             231 KRMTKSSRPLH-IFTAVVASFFICWF-PYELTGILMAVWL----KEILLNGKYKIILVLI 284
                                                                                                                                                                                                                                                                                                                                      "Classification of fungal chitin synthases.";
Proc. Natl. Acad. Sci. U.S.A. 89:519-523(1992).
-i- FUNCTION: PLAYS A MAJOR ROLE IN CELL WALL BIOGENESIS.
-i- CATALITIC ACTIVITY: UDP-N-ACETYL-D-GLUCOSAMINE + {1,4-(N-ACETYL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wang Z., Graybill J.R., Szaniszlo P.J.;
Characterztation and expression studies of WdCHS3, a gene that
encodes a class III chitin synthase and contributes to virulence in
Wangiella (Exophiala) dermatitidis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Exophiala dermatitidis (Wangiella dermatitidis).
Eukaryota, Fungi; Ascomycota; Chaetothyriales; Herpotrichiellaceae;
anamorphic Herpotrichiellaceae; Exophiala.
                                                                                                                                                                                                                                                                                                                                                                                                                     CHS3_EXODE STANDARD; PRT; 885 AA.
B30602; O74678;
01-APR-1993 (Rel. 25, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
CHITIN SYNTRASE 3 (EC 2.4.1.16) (CHITIN-UDP ACETYL-GLUCOSAMINYL
TRANSFERASE 3) (CLASS-III CHITIN SYNTHASE 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bowen A.R., Chen-Wu J.L., Momany M., Young R., Szaniszlo P.J., Robbins P.W.;
                                                                                                                                                                                                                                                                                                          6
                                                                                                                                                                                                                                                                                       Length 349;
                                                                                                                                                                                                                                                                                                 Pred. No. 1.21e+00;
27; Mismatches 37; Indels
                                                                          G-protein coupled receptor; Transmembrane; Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                     4 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
5 (POTENTIAL).
                                                                                             EXTRACELLULAR (POTENTIAL).
                                                                                                                                EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                               6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                      C0C92A9E5CDE250C CRC64;
                                                                                                                                                                            5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                          3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                              (POTENTIAL).
                                                                                                                                                                                                                7 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                 285 NPTSSLAFFNSCLNPSLYVFMGHNFQERLIRS-LPTSLERAL 325
                                                                                                                                                                                                                                                                                                                                                                             DB 1;
                                                                                                      1 (POTENTIAL)
CYTOPLASMIC (
                                                                                                                         2 (POTENTIAL)
                                                GCR_1739; .
3; PS00237; G_PROTEIN_RECEPTOR; 1.
                                                                                                                                                                                                                                    POTENTIAL.
                                                                                                                                                                                                                                                                                        Score 95;
                                                                                                                                                                                                                                                                        39531 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE OF 214-410 FROM N.A.
                                                                                                                                                                                                                                                                                         5.68;
                                                                                                                                                                                                                                                                                                  Similarity 28.4%;
29; Conservative
                                       EMBL; X97740; CAA66324.1;
                                                                                             27
50
61
83
83
100
1121
140
162
205
226
                                                                                                                                                                                                                            >349
                                                                   PFAM; PF00001; 7tm_1;
                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                        349 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE; 92115692
                                                                                                     28
51
62
84
101
1122
1141
1163
227
227
227
2287
307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-8656;
                                                                                     Chemotaxis.
                                                                                                     TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                              NON_TER
SEQUENCE
                                                                                                                                  DOMAIN
TRANSMEM
                                                                                                                                                                                                         DOMAIN
TRANSMEM
                                                                                                                                                                       DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                     DISULFID
                                                                                                                                                            FRANSMEM
                                                                                                                                                                                                 FRANSMEM
                                                                                                                                                                                                                                              CARBOHYD
                                                         PROSITE;
                                                                                              DOMAIN
                                                                                                                                                    DOMAIN
                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                       qq
     엄
                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                                                                                                à
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its mack by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4,
                                                                                                                                                SIMILARITY: BELONGS TO THE CHITIN SYNTHASE FAMILY. SUBFAMILY CLASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Trichosurus vulpecula).";
Gen. Comp. Endocrinol. 111:68-75(1998).
-i- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -- SUBCELLUTAR LOCATION: SECRETED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Metatheria; Diprotodontia; Phalangeridae; Trichosurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Transferase; Glycosyltransferase; Transmembrane; Cell wall;
BETA-D-GLUCOSAMINYL)](N) = UDP + [1,4-(N-ACETYL-BETA-D-D-GLUCOSAMINYL)](N) = UDP + [1,4-(N-ACETYL-BETA-D-GLUCOSAMINYL)](N) =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        837 LVATWIFSNALLAVAITSDSLDRFGFTSEPLRGPAISSRRF-CGLLRPC 884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
BADLINE, 98325478.
Saunders M.C., Deakin J., Harrison G.A., Curlewis J.D.;
"CDNA cloning of growth hormone from the brushtail possum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16 IVITWMFIRSYMSFSMKTIRLPRW-LAS-PTK--ELQVKKYKCGLIRPC 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 885;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Y -> M (IN REF. 2).
R -> S (IN REF. 2).
48D00BEE408398F0 CRC64;
                                                   GLUCOSAMINYL)](N+1).
SUBCELLULAR LOCATION: PLASMA MEMBRANE-BOUND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 95; DB 1; Lour Pred. No. 1.21e+00; 17; Mismatches 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Trichosurus vulpecula (Brush-tailed possum).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOMATOTROPIN.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation update
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence updai
15-UL-1999 (Rel. 38, Last annotation updai
SOMATOTROPIN PRECURSOR (GROWTH HORMONE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -; -;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS00266; SOMATOTROPIN_1; PROSITE; PS000389; SOMATOTROPIN_2; PFAM; PF00103; hormone; 1. Hormone; Pituitary; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AF053314; AAC35278.1; -.
EMBL; M81907; AAA30336.1; -.
PFAM; PF01644; Chitin_Synth; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              215 215 Y
340 340 R
885 AA; 99422 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PR00836; SOMATOTROPIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5.6%; S. larity 28.6%; F. Conservative 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AF052192; AAC08986.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SUBCELLULAR LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25
215
188
213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
hes 14; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Multigene family.
CONFLICT 215
CONFLICT 340
```

ø

24353 MW; F241085B4A7352D1 CRC64;

215 AA;

SEQUENCE

g

g g

ò

```
STANDARD;
                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
STRAIN-K12 / MG1655;
                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE; 97061202.
                                                                                                                  Escherichia coli.
               DMSC_ECOLI
P18777;
                                                                                             SUBUNIT).
                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
                            7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5,
                                                                                                                                                                                                                                                                                                                                                                                           111 LSPVQF-LSRVFTNSLVFGTSDRVY-EKLRDLEEG-IQALMQELEDGSSRGGLVLKTTYD 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MAQRLLLRRFLTSIISGKPSQSRWAPVASRALKTPQYSPGYLTVTPSQARSIYTTRVCST 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                           Watabe S., Hiroi T., Yamamoto Y., Fujioka Y., Hasegawa H., Yago N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5; Gaps
                                                                                                                                                                                                                                                           Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoldea; Bovidae;
                           7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MITOCHONDRION.
MITOCHONDRIAL THIOREDOXIN.
REDOX-ACTIVE (BY SIMILARITY).
5596F7DDA7E34D5F CRC64;
           Pred. No. 3.01e+00;
24; Mismatches 28; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 91; DB 1; Length 166;
Pred. No. 4.07e+00;
27; Mismatches 31; Indels
                                                                                                                                                                                                                                                                                                                                                                           rakahashi S.Y.;
'SP-22 is a thioredoxin-dependent peroxide reductase in
                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A., AND SEQUENCE OF 60-106 AND 111-166.
TISSUE-ADRENAL CORTEX;
MEDLINE; 98028383.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00194, THIOREDOXIN; 1.
PFAM; PF00085, thiored; 1.
Redox-active center; Electron transport; Mitochondrion;
                                                                                                                                                                                            15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-FEB-2000 (Rel. 39, Last annotation update)
MITOCHONDRIAL THIOREDOXIN PRECURSOR (MT-TRX).
                                                                                                                                                                          166 AA.
  Score 92;
                                                                                                168 KFDTNLRSDEALLKNYG-LLSCFKKDL 193
                                                                                                             148 DPGTKM-NDESR-KLFSDLGSSYAKQL 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        166 AA; 18416 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; D87741; BAA13447.1; -. PRINTS; PR00421; THIOREDOXIN.
Query Match 5.5%;
Best Local Similarity 32.2%;
Matches 28; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity 19.2%;
les 15; Conservations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AANVVGPTMCFEDRMIMS 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TFNIQDGPD-FQDRVVNS 77
                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     59
166
93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Transit peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               90
                                                                                                                                                                                                                                                                                                                                                                       Takahashi S.Y
                                                                                                                                                                                                                                                                                                 Bovinae; Bos
                                                                                                                                                           LT 12
THI2_BOVIN
Q95108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
```

g

g ç

```
1D DWSC_ECOLI STANDAD; PRT; 287 AA.

1D DWSC_ECOLI STANDAD; PRT; 287 AA.

1D TO STANDAD; DEAL 16, CTESTED;

1D TO STANDAD; DEAL 16, CTESTED;

1D TO STANDAD; DEAL 16, LEST AND TO STANDAD;

1D TO STANDAD;

1D
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  278 LPELSSDTKVDQDKCALIKQC-ANHFH-QIIRDSPVKVRQA-CYLPISNATGAPVIGKIG 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=972; Getli C., Churcher C.M., Barrell B.G., Rajandream M.A., Ralsh S.V.; Submitted (NOV-1995) to the EMBL/GenBank/DDBJ databases.
-!- SUBCELJULAR LOCATION: INFEGRAL MEMBRANE PROTEIN (POTENTIAL).
-!- SIMILARITY: TO YEAST YHRO99C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15; Mismatches 35; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 91; DB 1; Length 382;
Pred. No. 4.07e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 91; DB 1; Length 287;
Pred. No. 4.07e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13; Mismatches 12; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PERIPLASMIC (POTENTIAL).
DB6D26ACD2BE0CEB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
HYPOTHERICAL 41.5 KD PROTEIN CIF5.03C IN CHROMOSOME I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schizosaccharomyces pombe (Fission yeast).
Eukaryota; Fungi; Ascomycota; Schizosaccharomycetales;
Schizosaccharomycetaceae; Schizosaccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL.
COAF06F5534C3710 CRC64;
                                                                                                                                                                                                                                                                                                             CYTOPLASMIC (POTENTIAL).
POTENTIAL.
PERIPLASMIC (POTENTIAL).
POTENTIAL.
                                                                                                                                                                                                                                       PERIPLASMIC (POTENTIAL). POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CYTOPLASMIC (POTENTIAL). POTENTIAL.
                                                                                                          PERIPLASMIC (POTENTIAL).
                                                                                                                                                                            CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PERIPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CYTOPLASMIC (POTENTIAL).
                                                                             Inner membrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             382 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           117 LWLIVTMVLGVIFVWMMVRVYNSIDTVPTWYSIW 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
PIR; S03787; S03787.
ECOGENE; EG10234; DMSC.
Oxidoreductase; Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       41501 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30826 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; 268136; CAA92231.1; -. Hypothetical protein; Transme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5.4%;
Similarity 28.6%;
22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 5.4%;
Best Local Similarity 23.5%;
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      333 3
382 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 287 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     198
                                                                                                                                           YAM3_SCHPO
Q10058;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SPAC1F5.030
                                                                                                              DOMAIN
TRANSMEM
                                                                                                                                                                            DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                 DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRANSMEM
                                                                                                                                                                                                                                                                                FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HD DATE DE LA PROPERTICA DEL PROP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
       STATE STATE
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL Outstation the European Bioinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -:- PATHWAY: BRANCH-POINT REACTIONS BETWEEN GENERAL PHENYLPROPANOID METABOLISM AND PATHWAYS LEADING TO VARIOUS SPECIFIC END PRODUCTS.
-:- INDUCTION: TRANSCRIPTIONALLY ACTIVATED BY BOTH FUNGAL ELICITOR AND ULTRAVIOLET IRRADIATION.
-:- SIMILARITY: TO OTHER ENZYMES WHICH ACT VIA AN ATP-DEPENDENT
                                                                                                                                                                                                                                                                                                                                                                                                        Zhao Y., Kung S.D., Dube S.K.;
"Nucleotide sequence of free 4-coumarate:CoA ligase gene, 4-CL.1.";
Nucleic Acids Res. 18:6144(1990)
-i. CATALYTIC ACTIVITY: ATP + 4-COUMARATE + COA = AMP + PYROPHOSPHATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                      Eukaryota, Viridipjantae, Streptophyta, Embryophyta, Tracheophyta, euphyllophytes, Spermatophyta, Magnoliophyta, Liliopsida, Poales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 563;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14; Mismatches 16; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PFAM; PF00501; AMP-binding; 1.
Ligase; Phenylpropanoid metabolism.
SEQUENCE 563 AA; 60841 MW; 35B329401C6B44B9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7 Match 5.4%; Score 91; DB 1; L. Local Similarity 33.3%; Pred. No. 4.07e+00; les 17; Conservative 14; Mismatches 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COVALENT BINDING OF AMP TO THEIR SUBSTRATE.
                                                                                                                                                    01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-NOY-1995 (Rel. 32, Last annotation update)
4-COUMARATE--COA LIGASE (EC 6.2.1.12).
                                                                                                                 563 AA.
                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; X52623; CAA36850.1; -.
PIR; JUG311; JUG311.
HSSP; P08659; LLCI.
PROSITE; PS00455; AMP_BINDING; 1.
335 SSIYVAAAHGCWGITLG 351
                      98 RGLNIALVNGTTGAVLG 114
                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4 - COUMAROYL-COA.
                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
STRAIN=CV. JAPONICA;
MEDLINE; 91045096.
                                                                                                                                                                                                                                                     Oryza sativa (Rice)
                                                                                                                                                                                                                                                                                                               Poaceae; Oryza
                                                                                                               4CL_ORYSA
P17814;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                 셤
                                       ò
```

4:

323 RMVLSGA-APMGKDIEDAFMAKLPGAVLGQ-GYGMTEAGPVLSMCLAFAKE 371

용 ά Search completed: Wed May 31 11:04:38 2000 Job time: 12 secs.

			¥	
			٠	
_	_		-	_

V

* * * * * *	(TM)	
*		
***************************************	(ME)	
*		
*		
*	 _ _ 	
	 >	
	/ 	
*	*	

Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd

protein - protein database search, using Smith-Waterman algorithm MPsrch_pp

MasPar time 14.02 Seconds 750.250 Million cell updates/sec Wed May 31 11:03:51 2000; Run on:

Tabular output not generated.

>US-09-186-342-2 (1-223) from US09186342.pep 1686 1 MRVSGVLRLLALIFAIVTTW......KYEGWPELLEMEGCMPKPF 223 Title: Description: Perfect Score:

Sequence:

Scoring table:

PAM 150 Gap 11

142080 segs, 47172406 residues Searched:

Post-processing: Minimum Match 08 Listing first 45 summaries

pir62 1:pir1 2:pir2 3:pir3 4:pir4 Database:

scale 0.498 Variance 93.300; Mean 46.426; Statistics: Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

2.76e-154	6.73e-02	1.23e-01	9.50e-01	7.13e-01	7.13e-01	1.68e+00	2.93e+00	2.93e+00	3.87e+00	3.87e+00	3.87e+00	3.87e+00	5.09e+00	6.67e+00	1.14e+01	8.74e+00	1.14e+01	8.74e+00	1.49e + 01	1.49e+01	1.49e + 01	1.49e + 01
qene 2.19 protein - h	CREB-binding protein	potassium channel pro	hypothetical protein	kakapo gene protein i	kakapo gene protein -	hypothetical protein	probable n2, n2-dimeth	molybdopterin-binding	hypothetical protein	hypothetical protein	glycylpeptide N-tetra	immunodominant type-s	phosphoribosylanthran			hypothetical protein	hypothetical protein	two-component sensor	hypothetical protein	probable dimethylsulf	hypothetical protein	4-coumarateCoA liga
137095	T13828	T13807	C69288	T13715	T13714	869859	C75153	G69269	T15631	T15849	T00697	B42804	ISBYN	T10665	T03886	C70357	S51348	B70047	F72500	S03787	C75078	JU0311
~	~	7	7	~	~	ď	N	N	~	ď	7	~	_	7	~	~	7	~	~	~	7	Н
230	3190	1001	253	2285	2396	121	383	1134	269	320	389	522	224	855	291	469	509	573	257	287	491	263
53.9	6.5	6.4	9	9.0	6.0	5.9	5.8	5.8	5.7	5.7	5.7	5.7	2.6	2.6	5.5	5.5	5.5	5.5	5.4	5.4	5.4	5.4
806	110	108	101	102	102	66	97	97	96	96	96	96	95	94	92	93	92	93	91	91	91	91
.~	7	æ	4	Ŋ	9	7	80	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	53.9 230 2 137095 qene 2.19 protein - h	53.9 230 2 137095 gene 2.19 protein - h 6.5 3190 2 T13828 CREB-binding protein	53.9 230 2 137095 gene 2.19 protein - h 6.5 3190 2 T13828 CREB-binding protein 6.4 1001 2 T13807 potassium channel pro	53.9 230 2 137095 gene 2.19 protein - h 6.5 3190 2 T18828 CREB-binding protein 6.4 1001 2 T13807 potassium channel pro 6.0 253 2 C69288 hypothetical protein	53.9 230 2 137095 gene 2.19 protein - h 6.5 3190 2 713828 CREB-binding protein 6.4 1001 2 713807 potassium channel pro 6.0 253 2 C69288 hypothetical protein 6.0 2285 2 713715 kakapo gene protein i	53.9 230 2 137095 gene 2.19 protein - h 6.5 3190 2 T13828 CREB-binding protein 6.4 1001 2 T13807 potassium channel pro 6.0 2285 2 T13715 kakapo gene protein 6.0 2396 2 T13714 kakapo gene protein 1	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 713828 CREH-binding protein 108 6.4 1001 2 713807 potassium channel pro 101 6.0 253 2 C69288 hypothetical protein 102 6.0 2285 2 713715 kakapo gene protein 102 6.0 2396 2 713714 kakapo gene protein 99 5.9 121 2 869859 hypothetical protein	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 T13828 CREB-binding protein 108 6.4 1001 2 T13807 potassium channel pro 101 6.0 253 2 C69288 hypothetical protein 102 6.0 2285 2 T13715 kakapo gene protein 102 6.0 2396 2 T13714 kakapo gene protein 99 5.9 121 2 S69859 hypothetical protein 97 5.8 383 2 C75153 probable n2.n2-dimeth	53.9 230 2 137095 gene 2.19 protein - h 6.5 3190 2 T13828 CREB-binding protein 6.4 1001 2 T13807 potassium channel pro 6.0 2285 2 T13715 kakapo gene protein 6.0 2396 2 T13715 kakapo gene protein 7.9 121 2 S69859 hypothetical protein 5.9 121 2 S69859 probable n2,n2-dimeth 5.8 1134 2 G69269 molybdopterin-binding	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 T13828 CREB-binding protein 101 6.0 253 2 C69288 hypothetical protein 102 6.0 2396 2 T13715 kakapo gene protein 102 6.0 2396 2 T13714 kakapo gene protein 199 5.9 121 2 S69859 hypothetical protein 97 5.8 383 2 C75153 probable n2,n2-dimeth 97 5.8 1343 2 C69269 molybdopterin-binding 96 5.7 269 2 T15631 hypothetical protein	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 T13828 CREB-binding protein 108 6.4 1001 2 T13807 potassium channel pro 101 6.0 2285 2 T13715 kakapo gene protein i 102 6.0 2396 2 T13714 kakapo gene protein i 99 5.9 121 2 S69859 hypothetical protein i 97 5.8 383 2 C75153 probable n2,n2-dimeth 97 5.8 1134 2 G69269 molypdopterin-binding 96 5.7 269 2 T15631 hypothetical protein 97 5.8 134 2 G89269 molypdopterin-binding 96 5.7 269 2 T15631 hypothetical protein	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 T13828 GREB-binding protein 108 6.4 1001 2 T13807 potassium channel pro 101 6.0 2285 2 T13715 kakapo gene protein 102 6.0 2396 2 T13715 kakapo gene protein 102 6.0 2396 2 T13714 kakapo gene protein 97 5.8 121 2 \$69969 hypothetical protein 97 5.8 1134 2 \$69269 molybdopterin-binding 96 5.7 269 2 T15631 hypothetical protein 96 5.7 389 2 T10563 dycytpeptide N-tetra	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 T13828 CREB-binding protein 101 6.0 253 2 C69288 hypothetical protein 102 6.0 2396 2 T13715 kakapo gene protein i 102 6.0 2396 2 T13714 kakapo gene protein i 103 6.0 2396 2 T13714 probable no.	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 713828 GRB-binding protein 108 6.4 1001 2 713807 potassium channel pro 101 6.0 2285 2 713715 kakapo gene protein 1 102 6.0 2396 2 713714 kakapo gene protein 1 99 5.9 121 2 569859 hypothetical protein 1 97 5.8 134 2 C75153 probable n2,n2-dimeth 96 5.7 320 2 715649 hypothetical protein 96 5.7 320 2 715649 hypothetical protein 96 5.7 389 2 700697 glycylpeptide N-tetra	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 T13828 CREB-binding protein 108 6.4 1001 2 T13807 potassium channel pro 101 6.0 2285 2 T13715 kakapo gene protein 102 6.0 2396 2 T13714 kakapo gene protein 103 5.8 131714 kakapo gene protein 104 5.8 1314 2 C75153 probable n2, n2-dimeth 105 5.7 269 2 T15631 probable n2, n2-dimeth 106 5.7 320 2 T15631 protein 107 5.8 138 2 C75153 protein 108 6.7 389 2 T00697 glycylpeptide N-tetra 109 5.7 389 2 T00697 immunodominant type-s 109 5.7 522 B42804 immunodominant type-s 109 5.6 525 2 T16655 hypothetical protein 109 5.7 522 115818 protein	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 713828 CREB-binding protein 101 6.0 2285 2 713715 Potassium channel pro 102 6.0 2285 2 713715 Rakapo gene protein 102 6.0 2396 2 713714 Rakapo gene protein 103 6.0 2396 2 713714 Protein 104 6.0 2396 2 713714 Protein 105 6.0 2396 2 713714 Protein 106 6.0 2396 2 713714 Protein 107 5.8 1134 2 669269 Protein 108 6 5.7 269 2 715631 Protein 109 6 5.7 389 2 715631 Protein 109 6 5.7 389 2 710697 Glycylpeptide N-tetra 109 6 5.7 389 2 710697 Glycylpeptide N-tetra 109 6 5.7 389 2 710665 Protein 109 7 5.8 11384 Protein 109 7 5.8 11384 Protein 100 7 7 10065 Protein 100 7 7 7 7 10065 Protein 100 7 7 7 7 10065 Protein	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 713828 CREP-binding protein 6.4 1001 2 713807 potassium channel pro 101 6.0 2285 2 713715 kakapo gene protein i 102 6.0 2396 2 713714 kakapo gene protein i 99 5.9 121 2 569859 hypothetical protein i 97 5.8 383 2 C75153 probable n2,n2-dimeth 97 5.8 1134 2 G69569 molypothetical protein 96 5.7 320 2 715631 hypothetical protein 96 5.7 320 2 715631 hypothetical protein 97 5.8 189 2 700697 glycylpeptide N-tetra 96 5.7 389 2 100697 glycylpeptide N-tetra 96 5.7 389 2 100697 plycylpeptide N-tetra 96 5.7 389 2 710665 hypothetical protein 97 5.6 224 1 ISBNN hypothetical protein 98 5.6 224 1 ISBNN hypothetical protein 99 5.5 291 2 70386 hypothetical protein 91 5.5 291 2 70387 hypothetical protein	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 713828 CREB-binding protein 101 6.0 2285 2 713715 potassium channel pro 102 6.0 2285 2 713715 kakapo gene protein 102 6.0 2396 2 713714 kakapo gene protein 103 6.0 2396 2 713714 protein 104 6.0 2396 2 713714 protein 105 6.0 2396 2 713714 protein 106 6.0 2396 2 713714 protein 107 6.0 2396 2 713714 protein 108 6.0 2396 2 713714 protein 109 7 5.8 383 2 77553 protein 1134 2 G69269 p	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 713828 GREB-binding protein 108 6.4 1001 2 713807 potassium channel pro 101 6.0 2285 2 713715 kakapo gene protein 102 6.0 2396 2 713714 kakapo gene protein 102 6.0 2396 2 713714 kakapo gene protein 103 5.8 131 2 569859 hypothetical protein 104 5.8 134 2 669269 hypothetical protein 105 5.7 269 2 715849 hypothetical protein 106 5.7 389 2 715849 hypothetical protein 107 5.8 1134 2 669269 hypothetical protein 108 5.7 269 2 715849 hypothetical protein 109 5.7 389 2 700697 hypothetical protein 109 5.7 522 2 842804 hypothetical protein 109 5.5 291 2 70386 hypothetical protein 109 5.5 291 2 70387 hypothetical protein 109 5.5 573 2 87304 hypothetical protein 109 5.5 573 2 870047 two-component sensor	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 713828 CREB-binding protein 100 6.0 2285 2 713715 potassium channel pro 101 6.0 2285 2 713715 kakapo gene protein i 102 6.0 2396 2 713714 kakapo gene protein i 99 5.9 128 2 713714 kakapo gene protein i 97 5.8 383 2 C75153 probable n2,n2-dimeth 97 5.8 1134 2 C69269 molypothetical protein 96 5.7 320 2 715631 mylpothetical protein 96 5.7 320 2 715631 mylpothetical protein 97 5.8 128 2 700697 glycylpeptide N-tetra 96 5.7 320 2 715649 pypothetical protein 97 5.6 224 1 ISBNN phypothetical protein 98 5.6 224 1 ISBNN phypothetical protein 99 5.6 224 1 SBNN phypothetical protein 90 5.7 380 2 700697 phypothetical protein 91 5.5 509 2 S51348 hypothetical protein 92 5.5 573 2 P70087 phypothetical protein 93 5.5 573 2 P72500 hypothetical protein	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 713828 CREB-binding protein 101 6.0 2285 2 713718 kakapo gene protein 102 6.0 2285 2 713714 kakapo gene protein 103 6.0 2396 2 713714 kakapo gene protein 104 6.0 2396 2 713714 kakapo gene protein 105 6.0 2396 2 713714 kakapo gene protein 106 6.0 2396 2 713714 kakapo gene protein 107 6.0 2396 2 713714 kakapo gene protein 108 6.0 2396 2 713714 kakapo gene protein 109 7 8.8 33 2 725153 probable n2,n2-dimeth 1134 2 G69269 hypothetical protein 125 2 2 1 1288N hypothetical protein 125 2 2 1 13886 hypothetical protein 125 2 1 13804 hypothetical protein 125 2 1 13804 hypothetical protein 125 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	908 53.9 230 2 137095 gene 2.19 protein - h 110 6.5 3190 2 713828 CREB-binding protein 101 6.0 2285 2 713715 potassium channel pro 102 6.0 2285 2 713715 kakapo gene protein 102 6.0 2396 2 713714 kakapo gene protein 103 6.0 2396 2 713714 kakapo gene protein 104 6.0 2396 2 713714 kakapo gene protein 105 6.0 2396 2 713714 kakapo gene protein 106 6.0 2396 2 713714 kakapo gene protein 107 6.0 2396 2 713714 kakapo gene protein 108 6.0 2396 2 713714 kakapo gene protein 109 7 8.8 313 2 705153 probable n2,n2-dimeth 1134 2 G69269 hypothetical protein 1134 2 G69269 hypothetical protein 1138 2 715849 hypothetical protein 1138 2 715849 hypothetical protein 1138 2 710665 hypothetical protein 1138 2 710665 hypothetical protein 1138 2 710665 hypothetical protein 1139 2 713 2 710386 hypothetical protein 1139 2 713 2 87047 hypothetical protein 1139 2 757 2 87250 hypothetical protein 1139 2 757 2 87250 hypothetical protein 129 2 757 2 87250 hypothetical protein

24 99 5.4 1282 2 JC4493 microbial co 25 99 5.4 1287 2 A44665 26 99 5.3 104 2 BWCAAA Arkh protein 26 99 5.3 104 2 S07957 Arkh protein 28 99 5.3 104 2 S07957 hypothetical 28 99 5.3 145 2 S07957 hypothetical 39 99 5.3 256 1 WWMD 2 B S CADD hypothetical 31 89 5.3 36 2 A40734 PS Pas (Passove 34 99 5.3 36 2 A40734 PS Pas (Passove 35 90 5.3 462 1 DEECXE NACH CHYP trans 36 90 5.3 462 1 DEECXE NACH CHYP trans 37 90 5.3 462 2 A4080 C-Photsphofful 38 90 5.3 36 2 A4080 C-Photsphofful 40 89 5.3 579 2 C70108 PS PCDADE-CLE 41 89 5.3 579 2 C70108 PS PCDADE-CLE 42 89 5.3 679 2 L46084 PLOAD APPL 43 90 5.3 679 2 C40378 PS PCDADE-CLE 44 89 5.3 679 2 L46084 PS PCDADE-CLE 45 89 5.3 679 2 L46084 PS PCDADE-CLE 46 89 5.3 679 2 L46084 PS PCDADE-CLE 47 89 5.3 679 2 L46084 PS PCDADE-CLE 48 89 5.3 679 2 L46084 PS PCDADE-CLE 49 6 5.3 679 2 L46084 PS PCDADE-CLE 40 89 5.3 679 2 L46084 PS PCDADE-CLE 40 89 5.3 679 2 L46084 PS PCDADE-CLE 40 89 5.3 679 2 L46084 PS PCDADE-CLE 41 89 5.3 679 2 L46084 PS PCDADE-CLE 42 89 5.3 679 2 L46084 PS PCDADE-CLE 43 89 5.3 679 2 L46084 PS PCDADE-CLE 44 89 5.3 679 2 L46084 PS PCDADE-CLE 45 89 5.3 679 2 L46084 PS PCDADE-CLE 46 89 5.3 679 2 L46084 PS PCDADE-CLE 47 80 5.3 679 2 L46084 PS PCDADE-CLE 48 PCCCSS-TEFERNCE 49 PCCCSS-TEFERNCE 40 PCCCSS-TEFERNCE 40 PCCCSS-TEFERNCE 40 PCCCSS-TEFERNCE 40 PCCCSS-TEFERNCE 40 PCCCSS-TEFERNCE 40 PCCCSS-TEFERN	microbial collagenase 1.49e+01 SIL protein - human 1.49e+01 ArtA protein - Escher 2.51e+01 hypothetical protein 1.94e+01 hypothetical protein 1.94e+01 somatotropin precurso 2.51e+01 28.5K transport prote 1.94e+01 CopD homolog - Xantho 2.51e+01 Pas (Passover) protei 2.51e+01 Pas (Passover) protei 2.51e+01 Pas (Passover) protei 2.51e+01 Probable oxidoreducta 1.94e+01 Creatinase (EC 3.5.3. 1.94e+01 ANA(P)+ transhydrogen 1.94e+01 Greatinase (EC 3.5.3. 1.94e+01 Greatinase (EC 3.5.3. 1.94e+01 Creatinase (EC 3.5.3. 1.94e+01 Greatinase (EC 3.5.3. 1.94e+01 Gr	#type complete 19 protein - human Lama Homo sapiens #common_name man Lama Homo sapiens #common_name man Lama Homo sapiens #common_name man Lamanini, F.; Maestrini, E.; Tribioli, C.; Ka, A.; Torri, G.; Rivella, S.; Toniolo, D. Lat. Acad. Sci. U.S.A. (1993) 90:10977-10981 iptional organization of a 450-kb region of the human D:94068527 eliminary; translated from GB/EMBL/DDBJ NA EMBL:X87193; NID:9854081; PID:9854082 EMBL:X87193; NID:9854081; PID:9854082 EMBL:X87193; NID:9854081; PID:9854082 S.30 ##label RES EMBL:X87193; NID:9854081; PID:9854082 S.31 # Pred. No. 2.76e-154; vative 56; Mismatches 45; Indels 5; Gaps 2; SVGVTWIVVSILLGGPGSGFPRIQOLFTSPESSYTAAPRARKXKGG 60 :: :: : :	complete ein homolog - fruit fly (Drosophila
1 137095 1 137095 1 137095 1 137095 1 137095 1 1 137095 1 1 137095 1 1 137095 1 1 137095 1 1 137095 1 1 137095 1 1 137095 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	• • • • • • • • • • • • • • • • • • • •	ttype comporting the state of t	ype
7 P P P P P P P P P P P P P P P P P P P	11	095 rrmal_name rrmal_name 8 - 2.19 pu 8 - Feb - 196 095 ne, S.; 7 coustka, R	828 B-binding
7 P P P P P P P P P P P P P P P P P P P		137 137 137 137 137 137 137 137 137 137	T13 CRE
24 25 26 27 28 28 28 28 38 38 38 38 38 38 38 38 38 38 38 38 38		T 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	40000000000000000000000000000000000000	RESULT ENTRY TITLE DAGANI. DATE HAU #100 #100 #100 #100 #100 #100 #100 #10	RESULT ENTRY TITLE

~

```
||
MY 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ##residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          248 MY 249
                                                                                                                                                                                                                                                                                                                                                                                                                                  ##status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ##status
                                                                                                                                                                                                                                                                                                                                                                                                              #accession
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  #accession
                                                        REFERENCE #authors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   #authors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     #journal
                                      ACCESSIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     #title
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENETICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      #dene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUMMARY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUMMARY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
  DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                  3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Goldstein, S.A.; Price, L.A.; Rosenthal, D.N.; Pausch, M.H. Proc. Natl. Acad. Sci. U.S.A. (1996) 93:13256-13261 ORKI, a potassium-selective leak channel with two pore domains cloned from Drosophila melanogaster by expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181 GGMQQVVGTQMGMVNSMPMS-ISNNGNNGMNAIPGMNTIAQGNLGNMVLTNSVGGGMGGM 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97 FFAFTVCSTVGYGNISPTT-FAGRMIMIAY-SVIGIPVNGILFAGL-GEYFG-RTFEAIY 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64 YFAFKICSGAA-NVVGPTMCFEDRMIMSPVKNNVGRGLNIALVNGTTGAVLGQKAFD-MY 121
                                                                                                            Akimaru, H.; Chen, Y.; Dai, P.; Hou, D.X.; Nonaka, M.; Smollk, S.M.; Armstrong, S.; Goodman, R.H.; Ishii, S. Nature (1997) 386:735-738
Drosophila CBP is a co-activator of cubitus interruptus
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
            #formal_name Drosophila melanogaster
20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change
20-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        #formal_name Drosophila melanogaster
13-Aug-1999 #sequence_revision 13-Aug-1999 #text_change
                                                                                                                                                                                                                                                                                                                                             #map_position X
SUMMARY #length 3190 #molecular-weight 331879 #checksum 2759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            #map_position 1
SUMMARY #length 1001 #molecular-weight 109289 #checksum 4583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C69288 #type complete
hypothetical protein AF0307 - Archaeoglobus fulgidus
#formal_name Archaeoglobus fulgidus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            è;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 T13807 #type complete
potassium channel protein - fruit fly (Drosophila
melanogaster)
                                                                                                                                                                                                                                                                 ##residues 1-3190 ##label AKI
##cross-references EMBL:U88570; NID:91916929; PID:91916930;
PIDN:AAB53050.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 6.5%; Score 110; DB 2; Length 3190; Best Local Similarity 33.8%; Pred. No. 6.73e-02; Matches 24; Conservative 14; Mismatches 30; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 108; DB 2; Length 1001;
Pred. No. 1.23e-01;
14; Mismatches 20; Indels
                                                                                                                                                                                                                               preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in Saccharomyces cerevisiae.
#cross-references MUID:97075152
#accession T13807
                                                                                                                                                                                             hedgehog signalling.
melanogaster)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 6.4%;
Best Local Similarity 33.3%;
Matches 20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13-Aug-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ##status prell
                                                                                                                                                                                                                                                   ##molecule_type mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240 VNHLKQQPGGG 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     129 VKFLKEIPGGA 139
                                                                                                                                                                                                               T13828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORK1
                                                                                                                                                                                                           #accession
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    #authors
#journal
                                                                                                                #authors
                                                                                                                                                      | journal
                                                                        ACCESSIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSIONS
                                                                                                                                                                      #title
                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                ORGANISM
                                                                                                                                                                                                                                                                                                                               GENETICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENETICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #dene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ENTRY
                                    DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

ORGANISM

```
#authors Klenk, H.P.; Clayton, R.A.; Tomb, J.F.; White, O.; Nelson, K.E.; Ketchum, K.A.; Dodson, R.J.; Gvinn, M.; Hickey, E.K.; Peterson, J.D.; Richardson, D.L.; Kerlavage, A.R.; Graham, D.E.; Kyrphaes, N.C.; Fleischmann, R.D.; Ouackenbush, J.; Lee, N.H.; Sutton, G.G.; Gill, S.; Kirkness, E.F.; Dougherty, B.A.; McKenny, K.; Adams, M.D.; Loftus, B.; Peterson, S.; Reich, C.I.; McNoell, L.K.; Badger, J.H.; Gloder, S.; Reich, C.I.; McNoell, L.K.; Badger, J.H.; Gloder, A.; Zhou, L.; Overbeek, R.; Gocayne, J.D.; Weidman, J.F.; McDonald, L.; Utterback, T.; Cotton, M.D.; Springs, T.; Artiach, P.; Kaine, B.P.; Sykes, S.M.; Sadow, P.W.; D'Andrea, K.P.; Bowman, C.; Fujii, C.; Garland, S.A.; Mason, T.M.; Olsen, G.J.; Fraser, C.M.; Smith, H.O.; Woese, C.R.; Venter, J.C.

# journal Nature (1997) 390.364-370

# title The complete genome sequence of the hyperthermophilic, sulfate-reducing archaeon Archaeoglobus fulgidus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ##cross-references GB:AE001083; GB:AE000782; NID:g2689406; PID:g2650329;
TIGR:AF0307
:Y #length 253 #molecular-weight 30215 #checksum 6275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gregory, S.L.; Brown, N.H.
J. Cell Biol. (1998) 143:1271-1282
Kakapo, a gene required for adhesion between and within cell layers in Drosophila, encodes a large cytoskeletal linker protein related.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             851 IPGACLLLPPP-DQEAIDAAERLKRLFDRSVALWQKKHLRLRQNMIFATIRVVKG-WDFD 908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          190 EYFPEFKASVIRTNVQFSPDMPLEERLKI--IKNEVGKDFYKKLMEINEEDMVLWEKVVD 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              kakapo gene protein isoform B - fruit fly (Drosophila melanogaster) (fragment) #formal_name Drosophila melanogaster 13-Aug-1999 #sequence_revision 13-Aug-1999 #text_change
05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                preliminary; nucleic acid sequence not shown;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>ښ</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 6.0%; Score 102; DB 2; Length 2285; Best Local Similarity 26.5%; Pred. No. 7.13e-01; Matches 18; Conservative 22; Mismatches 25; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 253;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 101; DB 2; Length 253
Pred. No. 9.50e-01;
15; Mismatches 21; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ::
::
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     translation not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          #length 2285 #checksum 5038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           #type fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1-253 ##label KLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              = ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 6.0%;
Best Local Similarity 33.9%;
Matches 21; Conservative
                         05-Jun-1998
C69288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13-Aug-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ##molecule_type mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ##molecule_type DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Z17707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
```

Q

RESULT

ò qq ŏ TITLE

```
#authors Rienk, H.P.; Clayton, R.A.; Tomb, J.F.; White, O.; Nelson, K.E.; Ketchum, K.A.; Dodson, R.J.; Gwinn, M.; Hickey, E.K.; Peterson, J.D.; Richardson, D.L.; Kerlavage, A.R.; Graham, D.E.; Kyrpides, N.C.; Fleischmann, R.D.; Quackenbush, J.; Lee, N.H.; Sutton, G.G.; Gill, S.; Kirness, E.F.; Dougherty, B.A.; McKenny, K.; Adams, M.D.; Loftus, B.; Peterson, S.; Reich, C.I.; McNeall, L.K.; Badger, J.H.; Glodek, A.; Zhou, L.; Overbeek, R.; Gocayne, J.D.; Weidman, J.F.; McDonald, L.; Overbeek, R.; Gocayne, J.D.; Weidman, J.F.; McDonald, L.; Utterback, T.; Cotton, M.D.; Spriggs, T.; Artiach, P.; Kaine, B.P.; Sykes, S.M.; Sadow, P.W.; D'Andrea, K.P.; Bowman, C.; Fujii, C.; Garland, S.A.; Mason, T.M.; Olsen, G.J.; Fraser, C.M.; Smith, H.O.; Woese, C.R.; Venter, J.C.

# #journal Nature (1997) 390:364-370

# #title The complete genome sequence of the hyperthermophilic, sulfate-reducing archaeon Archaeoglobus fulgidus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ##INDLECULE_LIFE .....
##residues 1-1134 ##label KLE
##cross-references GB:AE001095; GB:AE000782; NID:g2689418; PID:g2650483;
##cross-references TIGR:AF0159
TIGR:AF0159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G69269 #type complete
molybdopterin-binding oxidoreductase homolog - Archaeoglobus
                                                                                                                                                                                                                          anonymous, Genoscope
by the EMBL Data Library, July 1999
synopeccus abysi genome sequence: insights into archaeal
chromosome structure and evolution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    124 DVMHLVKFLKEIPGGALVLVASYDDPGTKMNDESRKLFSDLGSSYAKQLGFRDSWVFIGA 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            308 QAVKLLKILKDELDVPL-FYDTHG-LGRRLKIEARKI-EEIINEL-RSLGYRASRIHFSP 363
probable n2.n2-dimethylguanosine tRNA methyltransferas PAB2092 - Pyrococcus abyssi (strain Orsay)
#formal_name Pyrococcus abyssi
20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           #formal_name Archaeoglobus fulgidus
05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change
05-Jun-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAB2092
#length 383 #molecular-weight 43218 #checksum 9956
                                                                                                                                                                                                                                                                                                                                                                                                                        ##cross_references GB:AJZ48284; GB:AL096836; NID:95457730; PIDN:CAB49306.1; PID:e1515201; PID:95457816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    preliminary; nucleic acid sequence not shown;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ouery Match 5.8%; Score 97; DB 2; Lenc
Best Local Similarity 21.6%; Pred. No. 2.93e+00;
Matches 16; Conservative 28; Mismatches 26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 translation not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ##experimental_source strain Orsay
                                                                                                                                                                                                                                                                                                                                                                                                     1-383 ##label KAW
                                                                                                                                                                                                                                                                                                                                              ##status preliminary
##molecule_type DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          #length 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                364 IGVKTDAPYEVFVN 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  184 KDLRGKSPFEQFLK 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ##molecule_type DNA
                                                                                                                                                                                                                                                                                                                         C75153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              G69269
                                                                                                                                                                                                                                                                                                                                                                                                        ##residues
                                                                                                                                                                                                                                                                            #description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ##status
                                                                                                                                                                                                                                                    #submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 #accession
                                                                                                                                                                                                                                                                                                                              #accession
                                                                                                                                                                                                                             #authors
                                                                                                                                                                     ACCESSIONS
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 #gene
SUMMARY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENETICS
                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                       ENTRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                             Gregory, S.L.; Brown, N.H.
J. Cell Biol. (1998) 143:1271-1282
Kakapo, a gene required for adhesion between and within cell
layers in Drosophila, encodes a large cytoskeletal linker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    962 IPGACLLLPPP-DQEAIDAAERLKRLFDRSVALWQKKHLRLRQNMIFATIRVVKG-WDFD 1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 135 IPGGALVLVASYDDPGTKMNDESRKLFS-DLGSSYAKQLGFRDSWVFIGAKDLRGKSPFE 193
                                                                                                                                                                                                                                               kakapo gene protein - fruit fly (Drosophila melanogaster)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                            (fragment)
#formal_name
#formal_name
13.Aug-1999 #sequence_revision 13.Aug-1999 #text_change
13.Aug-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                #formal_name Saccharomyces cerevisiae
23-Aug-1996 #sequence_revision 06-Sep-1996 #text_change
21-Nov-1997
869859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S69859 #type complete
hypothetical protein YMR075c-a - yeast (Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          #map_position 13R
SUMMARY #length 121 #molecular-weight 14033 #checksum 4865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ##residues__1___1_3396 ##label GRE
##cross-references EMBL:AJ011924; NID:e1332040; PID:e1332041;
PIDN:CAA09869.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 2396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pearson, D.; Bowman, S.
submitted to the EMBL Data Library, April 1995
S69859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 99; DB 2; Length 121,
Pred. No. 1.68e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 102; DB 2; Length 239
Pred. No. 7.13e-01;
22; Mismatches 25; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ##cross-references EMBL: Z48952; MIPS:YMR075c-a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          79 LLLLLSLLLTWKYIKEAMSLTILSSLLPFW 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #length 2396 #checksum 4585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          #type fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1-121 ##label PEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein related. T13714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5.9%;
llarity 35.5%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Match 6.0%;
Local Similarity 26.5%;
Les 18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cerevisiae)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ##molecule_type mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ##molecule_type DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S52814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1020 QFLAMGPE 1027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ||| :|:
QFLKNSPD 201
                                                                    909 QFLAMGPE 916
                                                                                                                      194 QFLKNSPD 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ##residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         #submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ##status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   #accession
```

4

Gaps

4;

Length 383; Indels

#accession

#authors #journal

#title

ACCESSIONS

ORGANISM

DATE

REFERENCE

Query Match

GENETICS #note

SUMMARY

Matches

ò g ŏ 7

RESULT

TITLE

194

#authors

GENETICS

ACCESSIONS

ORGANISM

REFERENCE

#molecular-weight 127688 #checksum 8700 Length 1134; Score 97; DB 2; L Pred. No. 2.93e+00; Query Match 5.8%; Best Local Similarity 27.3%;

æ

RESULT

6

ò

a

```
#description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ##residues
                                                                                                                                                                                                                                                                                                                 #submission
                                                                                                                                                                                                                                                                                                                                                                                 ##status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ##status
                                                                                                                                                                                                                                                                                                                                                                #accession
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  #authors
#journal
#title
                                                                                                    12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #introns
                                                                                                                                                                                                                                                                    #authors
                                                                                                                                                                                                                                  ACCESSIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSIONS
                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENETICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUMMARY
                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                  DATE
                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
     7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
9
                                 990 VVAAVEPTVVKGTIAIPVGMGRWADSAVKKPAYFRLNDGSVAALVS---ELPDGA-SLPS 1045
                                                    88 IMSPVKNNVGRG-LNIALVNGT-TGAVLGQKA-FDMYSGDVMHLVKFLKEIPGGALVLVA 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      201 YDKNNDEVVSQDDFVNGIPGTVDELNPEFENME-KLEKERRLREFNEEIDENSDGKATFR 259
     Gaps
                                                                                                                                                                                          115631 #type complete
hypothetical protein C25H3.10 - Caenorhabditis elegans
#formal_name Caenorhabditis elegans
20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein C56C10.9 - Caenorhabditis elegans #formal_name Caenorhabditis elegans 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 715849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CESP:C25H3.10
31/3; 68/3; 140/3; 188/3
#length 269 #molecular-weight 31750 #checksum 2802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       73/2; 120/3; 150/1; 202/1; 279/3
#length 320 #molecular-weight 37556 #checksum 163
     Ġ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ##residues 1-320 ##label FUL ##cross-references EMBL:U29408; NID:q868238; PID:q868247; PID:q868247; PID:q868247; PIDN:AAA68777.1; CESP:C56C10.9
                                                                                                                                                                                                                                                                                                                                                                        preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                       ##cross-references EMBL:U29535; NID:9868251; PID:9868259;
PIDN:AAA68788.1; CESP:C25H3.10
##experimental_source strain Bristol N2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                          Johnson, D. submitted to the EMBL Data Library, June 1995 beaminted to the EMBL Data Library, June 1995 r15631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fulton, L. submitted to the EMBL Data Library, June 1995
   Mismatches 40; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 96; DB 2; Length 320;
Pred. No. 3.87e+00;
32; Mismatches 43; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11; Mismatches 14; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 148 NQESRNFYHPLSGDHFRK -- FRGDWLEIGQNRLRS-SDISTFLKN 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The sequence of C. elegans cosmid C56C10 T15849
                                                                                               1046 DAVNPVKQLDETKKRILFTKSDRRYYDDLGI-DSWRFSG 1083
                                                                                                                Score 96; DB 2; L
Pred. No. 3.87e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   #type complete
                                                                                                                                                                                                                                                                                                                                                                                                        1-269 ##label JOH
   23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Match 5.7%;
Local Similarity 37.8%;
les 17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ouery Match 5.7%;
Best Local Similarity 20.4%;
Matches 21; Conservative
 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CESP:C56C10.9
                                                                                                                                                                                                                                                                                                                                                                                         ##molecule_type DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ##molecule_type DNA
##residues 1-32
                                                                                                                                                                                                                                                                            T15631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 218417
 27;
                                                                                                                                                                                                                                                                                                                                                                                                          ##residues
                                                                                                                                                                                                                                                                                                                                            #description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #description
                                                                                                                                                                                                                                                                                                                           #submission
                                                                                                                                                                                                                                                                                                                                                                            ##status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ##status
                                                                                                                                                                                                                                                                                                                                                         #accession
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             *accession
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      #introns
                                                                                                                                                                              10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #authors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          #introns
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSIONS
REFERENCE
                                                                                                                                                                                                                                                                          ACCESSIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Loca
Matches
Matches
                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENETICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         #gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENETICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           #gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUMMARY
                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                            DATE
                                 g
                                                                 ð
                                                                                               a
                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
```

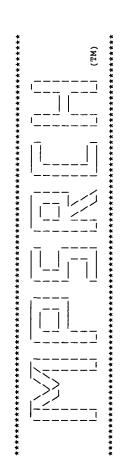
```
Ohashi, N.; Nashimoto, H.; Ikeda, H.; Tamura, A.
J. Biol. Chem. (1992) 267:12728-12735
Diversity of immunodominant 56-kDa type-specific antigen
(TSA) of Rickettsia tsutsugamushi. Sequence and comparative
analyses of the genes encoding TSA homologues from four
antigenic variants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3
                                                                                                                                                                                                                                                                                                                                                                                                  Kerlavage,
                                                                                                                                       Rounsley, S.D.; Kaul, S.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, R.C.; Sykes, S.M.; Mason, T.M.; Kerlavag A.R.; Adams, M.D.; Somerville, C.R.; Venter, J.C. submitted to the EMBL Data Library, June 1998 Arabidopsis thaliana chromosome II BAC F6E13 genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence extracted from NCBI backbone (NCBIN:108848, NCBIP:108849)
                                                                                                                                                                                                                    #formal_name Arabidopsis thaliana #common_name mouse-ear
                                                                                                                                                                                                                                                                  01-Feb-1999 #sequence_revision 01-Feb-1999 #text_change 30-Apr-1999 #T00697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    #formal_name Rickettsia tsutsugamushi
04-Mar-1993 #sequence_revision 18-Nov-1994 #text_change
20-Mar-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   immunodominant type-specific antigen tsw56 - Rickettsia tsutsugamushi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                transmembrane protein
#length 522 #molecular-weight 55971 #checksum 2488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ë,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ##cross-references EMBL:AC004005; NID:93212846; PID:93212870 ##experimental_source cultivar Columbia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100/3
F6E13.30
#length 389 #molecular-weight 44450 #checksum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 96; DB 2; Length 522;
Pred. No. 3.87e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20; Mismatches 17; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ##cross-references GB:M63383; NID:g152512; PID:g152513
##experimental_source strain Rawasaki
                            : :: :: | : | : | : | : | : | : | 176 DSWVFIGAKDLR--GKSPFE-QFLKNSPDTNKYEGWPELLEME 215
260 ELYDYVDPQNFRLASKEVNDIMMLTDANNDEKL-SLEELLERD 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 96; DB 2; Len
Pred. No. 3.87e+00;
7; Mismatches 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         104 LVNGTTGAVLGQKAFDM-YSGDVMHLVKFLKEI 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             327 LVNDAL-IVSKQKGFDVFYASDVMQNESFLKEL 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 #type complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1-389 ##label ROU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1-522 ##label OHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MUID: 92316959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 5.7%;
Best Local Similarity 31.0%;
Matches 18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 5.7%;
Best Local Similarity 48.5%;
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sednence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ##molecule_type DNA
##residues 1-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ##molecule_type DNA
                                                                                                                                                                                                                                                   cress
                                                                                                                                                                                                                                                                                                                                               Z14198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B42804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  T00697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B42804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           #cross-references
#accession B428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         #map_position 2
```

و

```
#submission
                                                                                                                                          ##status
                                                                                                                 #accession
                                                                                                                                                                                                                                                                                                #introns
                  REFERENCE
#authors
ACCESSIONS
                                                                                                                                                                                                                                     GENETICS
                                                                                                                                                                                                                                                           #dene
                                                                                                                                                                                                                                                                                                                   SUMMARY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ##molecule_type DNA
##residues 68-224 ##label MUW
##cross-references EMBL:Z48008; NID:9642799; PIDN:CAA88068.1;
PID:e159531; PID:91326006
##note due to an ochre mutation the TRP1 gene is split into two
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ##molecule_type DNA
##residues_1-57, 57, 59-66 ##label MUR
##residues_1-57, 57, 59-66 ##label MUR
##cross-references EMBL:Z48008; NID:g642799; PIDN:CAA88067.1;
##note due to an ochre mutation the TRP1 gene is split into two
parts in this strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4;
                                                                                                             phosphoribosylanthranilate isomerase (EC 5.3.1.24) - yeast Csacharomyces cerevisiae protein YDB19.134, protein YDB19.13B; protein YDB10.13A; protein YDB19.13B; protein YDB10.13B; protein YDB10.13B; protein YDB007w #formal_name Saccharomyces cerevisiae 11 Mar-1981 #sequence_revision 31-Mar-1981 #text_change 18-Unn-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 KAYKNSSGTPKYLVGVFRNQPKEDVLALVNDYGIDIVQLHGDESWQEYQEFLGLPVIKRL 120
                                                                                                                                                                                                                                                                                          Tschumper, G.; Carbon, J. Gene (1980) 10:157-166
Sequence of a yeast DNS fragment containing a chromosomal replicator and the TRP1 gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T10665 #type complete
hypothetical protein F6E21.30 - Arabidopsis thaliana
#formal_name Arabidopsis thaliana #common_name mouse-ear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cress
16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  #superfamily phosphoribosylanthranilate isomerase; trpF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4; Gaps
                      252 VLSDKITQIYS-DIRQFAKIANIEVPGAPLPNSASVEQIQTKMQELN-DVLEELRESF 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       intramolecular oxidoreductase; isomerase; tryptophan blosynthesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    #checksum 4881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Murphy, L.; Richards, C.; Gentles, S.; Harris, D. submitted to the EMBL Data Library, January 1995 S50988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 224;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21; Mismatches 47; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               #domain trpF homology #label TRF
#length 224 #molecular-weight 24158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 95; DB 1; L
Pred. No. 5.09e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | :| ::::| : | : | : | CBSWVFIGAKDLRGKSPFEQFLKNSPDTNKYEGW 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 VFPKDCNILLSAASQKPHSFIPLFDSEAGGTGELLDW 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ##cross-references SGD:S0002414; MIPS:YDR007w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 parts in this strain
                                                                                                                                                                                                                                                                                                                                                                                                                                     ##residues __ 1-224 ##label TSC
##cross-references EMBL:V01341
                                                                                                                                                                                                                                                                                                                                                                             #cross-references MVID:80225748
#accession A01135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 5.6%;
Best Local Similarity 25.8%;
Matches 25; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         homology
                                                                                                                                                                                                                                                                                                                                                                                                                  ##molecule_type DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SGD: TRP1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S50976
                                                                                                                                                                                                                                                                                A01135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  #map_position 4R
CLASSIFICATION #Su
                                                                                                                                                                                                                                                                                                                                                                                                                                             ##residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       #submission
#accession
                                                                                                                                                                                 ALTERNATE_NAMES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    #accession
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15
                                                                                                                                                                                                                                                                                                                       #journal #title
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       #authors
                                                                                                   14
                                                                                                                                                                                                                                                                                                       #authors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE
15-222
SUMMARY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             173
                                                                                                                                                                                                                                                           ACCESSIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           #dene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENETICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ENTRY
                                                                                                     RESULT
                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
    셤
                                           ŏ
```

```
3;
                                                       Bevan, M.; Lennard, N.; Quail, M.; Harris, B.; Rajandream, M.A.; Barrell, B.G.; Bancroft, I.; Mewes, H.W.; Mayer, K.F.X.; Lemkee, K.; Schueller, C. submitted to the Protein Sequence Database, June 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              762 GLLDLIGQELCFRERIHMGNVHSGK-RAMVISSLKKANISASRKQRIKLEINGEKELTFS 820
                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                              2864
                                                                                                                                                                                                                  ##cross-references EMBL:AL049914; GSPDB:GN00062; ATSP:F6E21.30
##experimental_source cultivar Columbia; BAC clone F6E21
                                                                                                                                                                                                                                                                                                                                                                                                                               э;
                                                                                                                                                                                                                                                                                                                                                  #checksum
                                                                                                                                                                                                                                                                                                                                                                                       Length 855;
                                                                                                                                                                                                                                                                                                                                                                                                                               31; Indels
                                                                                                                                                                                                                                                                                                                             345/1; 756/2
#length 855 #molecular-weight 95591
                                                                                                                                                                                                                                                                                                                                                                                    Score 94; DB 2; L
Pred. No. 6.67e+00;
23; Mismatches 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Search completed: Wed May 31 11:04:09 2000 Job time : 18 secs.
                                                                                                                                                                                                     1-855 ##label BEV
                                                                                                                                                            preliminary
                                                                                                                                                                                                                                                                                                                                                                                         Query Match 5.6%;
Best Local Similarity 24.0%;
Matches 18; Conservative
20-Sep-1999
T10665
                                                                                                                                                                                                                                                                                      ATSP: F6E21.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            821 EFLKHPSGMEAVINA 835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              130 KFLKEIPGGALVLVA 144
                                                                                                                                                                                    ##molecule_type DNA
                                        216533
                                                                                                                                           T10665
                                                                                                                                                                                                                                                                                                         #map_position
                                                                                                                                                                                                     ##residues
```





Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd

protein - protein database search, using Smith-Waterman algorithm MPsrch_pp

Wed May 31 11:05:38 2000; MasPar time 6.14 Seconds 524.106 Million cell updates/sec Run on:

Tabular output not generated.

>US-09-186-342-2 (1-223) from USO9186342.pep 1686 1 MRVSGVLRLLALIFAIVTW.......KYEGWPELLEWEGCMPPKPF 223 Description: Perfect Score: Sequence:

PAM 150 Gap 11 Scoring table:

145341 seqs, 14437480 residues Searched:

Post-processing: Minimum Match 0% Listing first 45 summaries

a-issued 1:5A_COMB 2:5B_COMB 3:6_COMB 4:PCT_COMB 5:backfiles1 Database:

Mean 30.975; Variance 139.082; scale 0.223 Statistics: Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

NO.								
;	Score	Match	Length	DB	ΩI	Description		Pred. No.
Н	993	58.9	135	4	PCT-US95-0	Sequence 7,	Applicatio	1.52e-80
7	993	58.9	135	Н	US-08-469-	Sequence 7,	Applicatio	1.52e-80
ო	108	6.4	618	Н	US-08-332-	Sequence 2,	Applicatio	1.59e+00
4	102	9.0	993	Н	US-08-468-	Sequence 2,	Applicatio	4.40e+00
ß	91	5.4	166	7	US-08-775-	Sequence 3,	Applicatio	2.70e+01
9	8	5.3	614	r	ns-08-968-	Sequence 13	-	3.72e+01
7	88	5.3	680	7	US-07-674-	Sequence 2,	Applicatio	3.72e+01
æ	8	5.3	089	7	US-08-436-	Sequence 2,	Applicatio	3.72e+01
σ	98	5.1	731	Н	US-08-731-	Sequence 2,	Applicatio	6.01e+01
01	82	5.0	16	٦	US-08-478-	Sequence 9,	Applicatio	7.03e+01
ㅁ	82	5.0	16	7	US-07-881-	Sequence 9,	Applicatio	7.03e+01
2	82	5.0	9/	Н	US-08-120-	Sequence 9,	Applicatio	7.03e+01
2	84	5.0	119	4	PCT-US95-0	Sequence 8,	Applicatio	8.23e+01
14	84	5.0	119	П	US-08-249-	Sequence 8,	Applicatio	8.23e+01
12	84	5.0	119	ď	ns-08-886-	Sequence 8,	Applicatio	8.23e+01
16	84			٦	-004-80-SD	Sequence 20,	, Applicati	8.23e+01
17	82	5.0		~	US-08-737-	Sequence 13,		7.03e+01
18	83	4.9		Н	us-07-885-			9.63e+01
19	83	4.9	191	~	us-08-033-	Sequence 3,	Applicatio	9.63e+01
20	83	4.9		m	US-08-459-	Sequence 2,	Applicatio	9.63e+01
21	83	4.9	193	~	US-08-383-	Sequence 2,	Applicatio	9.63e+01
22	83	4.9	199	П	US-07-801-	Sequence 4,	Applicatio	9.63e+01
33	83	4.9	217	7	US-09-105-	Sequence 2,	Applicatio	9.63e+01

1.13e+02 1.13e+02 1.13e+02 1.13e+02 1.13e+02 1.13e+02 1.13e+02 1.13e+02 9 63e+01 9 63e+01 9 63e+01 9 63e+01 1.31e+02 1.31e+02 1.31e+02 1.31e+02 1.31e+02 1.31e+02 1.31e+02 1.31e+02 1.31e+02 1.31e+02 1.31e+02 1.31e+02 1.31e+02					
Application					Proteins Cecchi,
22, 84, 22, 23, 24, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25		AA.			nd #11
sednence sed		135 A			Gilfill Gilfill S99
	TS	PRT;		68	Specific Specific tein ad syms-Dos sse #1.0, TUS95/072 5 134 134 134 134 135800-:
09-22 - US922 - US922	MEN			5072	us9507289 urne, Bain lstein ls
US-09-221- PCT-US92-0 PCT-US92-0 US-08-466-0 US-08-466-0 US-08-466-0 US-08-467-0 US-08-808-0	ALIGNMENT	RD;		TUS9	99 S C C C C C C C C C C C C C C C C C C
84440081818180811141100		STANDARD		PC	ion PC// carlian varian
44 53311 53314 53333 53333 53333 53333 5333 5		ST		Application PC/TUS950728	uence 7, Application PC/TUS950 NBERAL INFORMATION: APPLICANT: Yu, Guo-Liang APPLICANT: Yu, Guo-Liang TITLE OF INVENTION: Colon Spentrage of States TITLE OF INVENTION: Colon Spentrage of States TREET: Submers: 24 ADDRESSEE: Stewart & Olsteil STREET: 6 Becker Farm Road CITY: Roseland STREET: 0 Becker Farm Road CITY: Roseland COUNTRY: USA ZIP: 07048-1739 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC Compatible OPERATING SYSTEM: PC-DOS/MS SOGTWARE: PatentIN DAR: APPLICATION NUMBER: PCT/US9 FILING DAFE: 06-JUN-1995 CLASSIFICATION: NAME: Ferraro, Gregory D. RECISTATION NUMBER: 32, 134 RECISTATION NUMBER: 33, 134 RECISTANTION INFORMATION: NAME: FORTATION NUMBER: 32, 134 REFERENCE/POCKET NUMBER: 32, 134 REFERENCE/OCKET NUMBER: 33, 134 REFERENCE/OCKET NUMBER: 36, 134 REFERENCE/OCKET NUMBER: 36, 134 REFERENCE/OCKET NUMBER: 32 TELEPHONE: 201-994-1704 TELEPHONE: 201-994-1704 TELENGTH: 135 amino acids TYPE: amino acid TYPE: mino acid TYPE: mino acid TYPE: protein MOLECULE TYPE: protein MOLECULE TYPE: Protein FINENCE
<u>သမာ့သမာ့သမာ့သမာ့သမာ့သမာ့ဆဆေးဆေးဆေးဆေးဆ</u>		2-2		pli	Appliance of the control of the cont
		-07289		-	NCC 7, AP RAL INFORMATION PLICANT: TLE OF IN MBER OF SA MBER OF SA MBER OF SA MBERSSEE ADDRESSEE
		1 -US95	xxxxx	Sequence 7	Sequence 7, Application PC/TUS9507 GENERAL INFORMATION: APPLICANF: You, Guo-Liang APPLICANF: Rosen, Craig TITLE OF INVENTION: Colon Spec NUMBER OF SEQUENCES: 24 CORRESPONDENCE ADDRESS: ADDRESSEE: Stewart & Olstein STREET: 6 Becker Farm Road CITY: Roseland STATE: NJ COUNTRY: USA ZIP: 0708-1739 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC Compatible OPERATING SYSTEM: PC-DOS/MS- SOFTWARE: PAPLICATION DATA: APPLICATION NUMBER: PCT/US95 FILLING DATE: 06-JUN-1995 CLASSIFICATION: ATTORNEY/AGENT INFORMATION: NAME: Ferraro, Gregory D. REGISTRATION NUMBER: 335,134 REFERENCE/DOCKET NUMBER: 335 TELEPHONE: 201-994-1700 TELEPAN: 201-994-1704 TELEPHONE: 201-994-1704 TELEPHONE: 201-994-1704 TELEPHONE: 201-994-1704 TELEPANE: APPLICATION INFORMATION: TELEFAN: 201-994-1704 TELEPHONE: 201-994-1704 TELENGTH: 135 amino acids TYPE: amino acid TOPOLOGY: linear MOLECULE TYPE: proctein
22222222222222222222222222222222222222		JLT PCT	XX	Sec	ž,
		RESULT ID P	S Z X E X	E	%8888888888888888888888888888888888888

~

US-09-186-342-2.rai

```
61 PGTKMNDESRKLFSDLGSSYAKQLGFRDSWVFIGAKDLRGKSPFEQFLKNSPDTNKYEGW 120
                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         / Match 6.4%;
Local Similarity 33.3%;
Les 20; Conservative
                                       121 PELLEMEGCMPPKPF 135
                                                 209 PELLEMEGCMPPKPF 223
                                                                                                                                                                                                                                                                                     New Jersey
                                                                                                                                                                                                                                                                                                     07470-8426
                                                                                                                                                                                                                                                                                              as
                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                     T 3
US-08-332-312-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-468-557-2
                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                    STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                 XXXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        XXXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                          ð
                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                          1 MSPVKNNVGRGLNIALVNGTTGAVLGQKAFDMYSGDVMHLVKFLKEIPGGALVLVASYDD 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MSPVKNNVGRGLNIALVNGTTGAVLGQKAFDMYSGDVMHLVKFLKEIPGGALVLVASYDD 60
                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                     ö
                                                                                                                                                                                                                                           Sequence 7, Application US/08469667
Patent No. 5733748
GENERAL INFORMATION:
APPLICANT: Yu, Guo-Liang
APPLICANT: Rosen, Craig
TILLE OF INVENTION: Colon Specific Genes and Proteins
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
ADDRESSE: Carella, Byrne, Bain, Gilfillan, Cecchi,
ADDRESSE: Stewart & Olstein
STREET: 6 Becker Farm Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
  Length 135;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 135;
Score 993; DB 4; Length 135
Pred. No. 1.52e-80;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:

REDIUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/469,667
FILING DATE: 06-JUN-1995
CLASSIFICATION: 536
                                                                                                                                                                      135 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 993; DB 1; I
Pred. No. 1.52e-80;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: Ferraro, Gregory D.
REGISTRATION UNDER: 336,134
REFERENCE/DOCKET NUMBER: 325800-435
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: 201-994-1700
TELEFAX: 201-994-1744
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
LENGTH: 135 amino acids
TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein
ENCE 135 AA; 14852 MW; 99029 CN;
                                                                                                                                                                                                                             Sequence 7, Application US/08469667
                                                                                                                                                                      STANDARD;
Query Match 58.9%;
Best Local Similarity 100.0%;
Matches 135; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 58.9%;
Best Local Similarity 100.0%;
Matches 135; Conservative
                                                                                                                121 PELLEMEGCMPPKPF 135
                                                                                                                                209 PELLEMEGCMPPKPF 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                          STREET: 6 Becke
CITY: Roseland
STATE: NJ
                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                     US-08-469-667-7
                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                         XXXXXX
                                                                                                                                                           윱
                                                                                                               g
                                                                                                                               ò
                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
```

```
Sequence 2, Application US/08332312
Patent No. 5559026
GENERAL INFORMATION
APPLICANT: Price, Laura A. APPLICANT: Price, Laura A. TITLE OF INVENTION: Functional Expression of a Drosphila TITLE OF INVENTION: Melanagaster Putative Potassium Channel in Yeast NUMBER OF SEQUENCES: 4
CORRESPONDENCES: American Cyanamid Company
STREET: One Cyanamid Plaza
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
9
97 FFAFTVCSTVGYGNISPTT-FAGRMIMIAY-SVIGIPVNGILFAGL-GEYFG-RTFEAIY 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 618;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OSFWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/332,312
                                                                                                                                                                                                    618 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 108; DB 1; Pred. No. 1.59e+00; 14; Mismatches 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   993 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEE: American Cyanamid Company : One Cyanamid Plaza Wayne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 618 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
IBNCE 618 AA; 70255 MW; 1951401 CN;
                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 435
ATORNEY/AGENT INFORMATION:
NAME: Harrington, James J.
REGISTRATION NUMBER: 9-38,711
REFERENCE/DOCKET NUMBER: 32,421
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-831-3346
TELEFAX: 201-831-3305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/08332312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: 201-831-3305
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
```

```
1 MAQRILLERRFLTSIISGKPSQSRWAPVASRALKTPQYSPGYLTVTPSQARSIYTTRVCST 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 5.4%; Score 91; DB 2; Length 166; Best Local Similarity 19.2%; Pred. No. 2.70e+01; Matches 15; Conservative 27; Mismatches 31; Indels
                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/775,978
FILING DATE: To Be Assigned
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               614 AA.
                         : Incyte Pharmaceuticals, Inc. 3174 Porter Drive
                                                                                                                                                                                                                                                         TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
TELEPHONE: 415-845-4166
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERETORY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                    166 AA; 18416 MW; 148927 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VASANTHA NAGARAJAN
MARK S. PAYNE
STEPHEN K. PICATAGGIO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 13, Application US/08968563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CHARLES E. NAKAMURA
ANTHONY A. GATENBY
AMY (KUANG-HUA) HSU
RICHARD D. LA REAU
SHARON L. HAYNIE
MARIA DIAZ-TORRES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 13, Application US/08968563
                                                                                                                                                                                                                        ATTORNEY AGENT.
NAME: B1111ngs, Lucy J.
REGISTRATION NUMBER: 36,749
REFERENCE/DOCKET NUMBER: PF-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DONALD E. TRIMBUR GREGORY M. WHITED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                   LENGTH: 166 amino acids
                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
STRANDEDNESS: single
  NUMBER OF SEQUENCES: 3
             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      : |: |: |:| | 73 AANVVGPTMCFEDRMIMS 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 TFNIQDGPD-FQDRVVNS 77
                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                             LIBRARY: GenBank
CLONE: 1545817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent No. 6013494
GENERAL INFORMATION:
APPLICANT: CHARLES
                                              Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                 IMMEDIATE SOURCE:
                                                                       USA
                                                          STATE: CA
COUNTRY: US,
ZIP: 94304
                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-968-563-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                   STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      XXXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                    Sequence 2, Application US/08468557
Patent No. 5759833
GENERAL INFORMATION:
APPLICANT: Shiba, Kiyotaka
APPLICANT: Schimmel, Paul R.
TITLE OF INVENTION: Human Isoleucyl-tRNA Synthetase
TITLE OF INVENTION: Proteins, Nucleic Acids and Tester Strains Comprising Same
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    887 VIEPGLLFEIIEMLQSEETSSTSQ-LN-ELMMASESTLLAQEPREM-TADVIELKGKFLI 943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 993;
                                                                                                      TOTAL STATE: Massachusetts

CITY: Lexington
STATE: Massachusetts
COUTRY: US
COUTRY: US
COUTRY: US
COUTRY: US
                                                                                                                                                                                                                                                        SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/468,557
FILING DATE: 06-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/250,852
FILING DATE: 27-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAMM: BLOOK, David E.
REGISTRATION NUMBER: 22,592
REGISTRATION NUMBER: 22,592
REFERENCE/DOCKET NUMBER: CP194-13A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23; Mismatches 23; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3, Application US/08775978
Patent No. 5831049
GENERAL INFORMATION:
APPLICANT: GOLL, SURYA K.
APPLICANT: GOLL, SURYA K.
TITLE OF INVENTION: NOVEL HUMAN THIOREDOXIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        166 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 102; DB 1;
Pred. No. 4.40e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: protein
ENCE 993 AA; 111800 MW; 5344624 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 3, Application US/08775978
Sequence 2, Application US/08468557
                                                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 617-861-9540
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 993 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                              617-861-9540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Match 6.0%;
Local Similarity 30.1%;
es 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                :: || : :||
134 EIPGGALVLVASY 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  944 NLEGGDIREESSY 956
                                                                                                                                                                                                  02173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-775-978-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                XXXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
```

```
81 VSETIRKGLIDVEMYNSTQGLLMAGSVSAMFGSAVWQLVASFLK-LPISGTHCIVGA 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2, Application US/08436900A
Patent No. 5874264
GENERAL INFORMATION:
APPLICANT: O'Hara, Bryan M.
TITLE OF INFORMATION:
Glabon Ape Leukemia Virus Receptors
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: American Home Products
STREET: One Campus Drive
CITY: Parsippany
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 680;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 5.3%; Score 89; DB 1; Length 680; Best Local Similarity 28.1%; Pred. No. 3.72e+01; Matches 16; Conservative 20; Mismatches 17; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ź
                                                                                                                      STATE: CUMITY: USA

COUNTRY: USA

ZIP: 06904-0060
COMPUTER: ELOPPY DISK
COMPUTER: LIBM FOR AT
OPERATING SYSTEM: MS-DOS
SOFTWARE: ASCII CONVERTED ITOM
CURRENT APPLICATION NUMBER: US/07/674,287B
FILING DATE: 19910325
CLASSIFICATION NUMBER: ASSI
PLOSSIFICATION NUMBER: ASSI
CLASSIFICATION NUMBER: ASSI
PLOSSIFICATION NUMBER: ASSI
PLOSSIFICATION NUMBER: APPLICATION NUMB
     ADDRESSEE: Dr. Karen A. Lowney
ADDRESSEE: American Cyanamid Company
STREET: 1937 West Main Street
STREET: P.O. BOX 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31,104-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: LOWNEY, KAITEN A., Dr.
REGISTRATION NUMBER: 31,274
REPERBENCE/DOCKET NUMBER: 31,104-01
TELEPHONE: 203 321 2361
TELEPHONE: 203 321 2971
TELEPAX: 203 321 2971
TELEFAX: 204 321 2971
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 680 Amino Acid Residues
TYPE: AMINO ACID SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: Protein
JENCE 680 AA; 73675 MW; 2557540 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 07054
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/08436900A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS: Single
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New Jersey
: U.S.A.
                                                                                                       Stamford
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-436-900A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE: N. COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SECUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              XXXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 89; DB 3; Length 614;
Pred. No. 3.72e+01;
11; Mismatches 21; Indels 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     49 DAATRGLNVALVEKGDFASGTSSKSTKMIHGGVRYLEKAFWEFSKAQLDLV
                                                                                                                                                                                                                                                                                                                                                                                         COUNTER TEADABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.50 INCH DISKETTE
COMPUTER: 1BM PC COMPATIBLE
OPERATING SYSTEM: MICROSOFT WORD FOR WINDOWS 95
SOFTWARE: MICROSOFT WORD VERSION 7.0A
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/968,563
APPLICANT: RAMESCH V. NAIR
TITLE OF INVENTION: METHOD FOR THE RECOMBINANT
TITLE OF INVENTION: PRODUCTION OF 1,3-PROPANEDIOL
NUMBER OF SEQUENCES: 49
CORRESPONDENCE ADDRESS:
ADDRESSE: E. I. DU PONT DE NEMOURS AND COMPANY
STREET: 1007 MARKET STREET
CITY: WILMINGTON
STREE: DELAWARE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         680 AA
                                                                                                                                                                                                                                                                        ADDRESSEE: GENENCOR INTERNATIONAL, INC. STREET: 4 CAMBRIDGE PLACE STREET: 1870 SOUTH WINTON ROAD CITY: ROCHESTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 2, Application US/07674287B
Patent No. 5414076
GENERAL INFORMATION:
APPLICANT: Bryan Mark O'Hara
TITLE OF INVENTION: Gibbon Ape Leukemia
TITLE OF INVENTION: Virus Receptor
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATE:
APPLICATION NUMBER: 60/030,601
FILING DATE: NOVEMBER 13, 1996
ATTORNEY/AGENT INFORMATION:
NAME: FLOYD. LINDA AXAMETY
REGISTRATION NUMBER: 33,692
REFERENCE/DOCKET NUMBER: CR-9982
TELEPHONE: 302-892-8112
TELEPHONE: 302-773-0164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            614 AA; 68811 MW; 2001065 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2, Application US/07674287B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 302-773-0164
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 614 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 5.3%;
Best Local Similarity 35.3%;
Matches 18; Conservative
                                                                                                                                                                                                  STATE: DELAWARE COUNTRY: U.S.A. ZIP: 19898
                                                                                                                                                                                                                                                                                                                                                                             NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-07-674-287B-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                        STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
```

XXXXXX

RESULT

ò

셤

4

Gaps

S

```
MOLECULE TYPE: peptide
                                                  SEQUENCE
                                                                                                                                                                                                                                         XXXXXX
                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                    g
 ឧឧឧឧ
                                                                                                                                  ŏ
                                                                                                                                                                           ŏ
                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                 81 VSETIRKGLIDVEMYNSTQGLLMAGSVSAMFGSAVWQLVASFLK-LPISGTHCIVGA 136
                                                                                                                                                                                                                                                           | :: :|| :: :|: :|: :|: | ::: | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 92 VRNNVGRGL-NIALVNGTTGAVLGQKAFDMYSGDVMHLV-KFLKEIP-GGALVLVAS 145
                                                                                                                                                                                                                              4;
                                                                                                                                                                                                       / Match 5.3%; Score 89; DB 2; Length 680; Local Similarity 28.1%; Pred. No. 3.72e+01; nes 16; Conservative 20; Mismatches 17; Indels
                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INCOMMATION:
APPLICANT: Hoskins, John
APPLICANT: Jaskunas, S. Richard
APPLICANT: Jaskunas, S. Richard
APPLICANT: Zhao, Genshi
APPLICANT: Rocteck, Paul R. Jr.
APPLICANT: Rosteck, Paul R. Jr.
APPLICANT: No. 578920zris, Franklin H.
TITLE OF INVENTION: Penicillin Binding Protein From
TITLE OF INVENTION: Streptococcus Pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/731,716
                                                                                                                                                                                                                                                                                                              731 AA
                                      ATTORNEY/AGENT INFORMATION:
NAME: Barnhard, Elizabeth M.
REGISTRATION NUMBER: 31,088
REFERENCE/DOCKET NUMBER: 31,104-03
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-683-2158
TELEPRAX: 201-683-2158
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 680 amino acids
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/436,900A
FILLIO DATE: 08-WAY-1995
CLASSIFCATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Webster, Thomas D.
RECISTAATION NUMBER: 39,872
REFERENCE/DOCKET NUMBER: x-10,887
TELECOMMUNICATION INFORMATION:
TELEPHONE: 317-276-3334
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                         MOLECULE TYPE: protein
JENCE 680 AA; 73675 MW; 2557540 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Ell Lilly and Company
STREET: Lilly Corporate Center
CITY: Indianapolis
STATE: Indiana
                                                                                                                                                                                                                                                                                                               PRT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY.

ZIP: 46285
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
PC Compatible
PC POSS/MS-DY
                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/08731716
Patent No. 5789202
                                                                                                                                                                                                                                                                                                                                                                          Sequence 2, Application US/08731716
                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                             TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: (CORRESPONDENCE ADDRESS)
                                                                                                                                                                                                                                                                                                              US-08-731-716-2
                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                     XXXXXX
                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                                                                                                    셤
  888888888888888888888888
                                                                                                                                                                                                                                                                       ð
```

```
Sequence 9, Application US/08478675
Patent No. 5773346
GENERAL INFORMATION.
GENERAL INFORMATION.
GENERAL INFORMATION.
APPLICANT: KING, PETER H.
APPLICANT: LEVINE, TODD
TITLE OF INVENTION: METHODS AND COMPOSITIONS USEFUL IN THE
TITLE OF INVENTION: RECOGNITION, BINDING AND EXPRESSION OF RIBONUCLEIC ACID
TITLE OF INVENTION: INVOLVED IN CELL GROWTH, NEOPLASIA AND IMMUNOREGULATION
NUMBER OF SEQUENCES: 101
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                        ä
                                                                                                                                                                                                                                                    472 ATVNDLGVDKAFEAGEKFGLNMEKVDRVLGVALGSGVETNPLQMAQAYAAFANEGLMPEA 531
                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                        ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: VELON, SPIVAK, MCCLELLAND, MAIER & NEUSTAL STREET: 1755 Jefferson Davis Highway, Fourth Floor CITY: Arlington STATE: Virginia COUNTRY: U.S.A.

ZIP: 2202
COMPUTER: 2202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Floppy disk
COMPUTER: Floppy disk
COMPUTER: TBM PC compatible
COMPUTER: TBM PC compatible
COPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/478,675
FILING DATE: US/08/478,675
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/120,827
FILING DATE: 15-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAME: Oblon, NO. 5773246man F.
REGISTRATION NUMBER: 24,618
                                                                                                                                                      Score 86; DB 1; Length 731;
Pred. No. 6.01e+01;
24; Mismatches 43; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     76 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24,618
ER: 714-158-0 CIP
                                                                                    MOLECULE TYPE: protein
JENCE 731 AA; 80798 MW; 2731494 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                532 HFISRIENASGQVIASHKNSQKRVIDKS 559
                                                                                                                                                                                                                                                                                                                                                                           |: | :: :: | | :: 1 | 130 KFLKEIPGGALVLVASYDDPGTKMNDES 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 9, Application US/08478675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 71
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (703)413-3000
(703)413-2220
                   LENGTH: 731 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    : 76 amino acids amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
SEQUENCE CHARACTERISTICS:
                                                                                                                                                          Query Match 5.1%;
Best Local Similarity 21.6%;
Matches 19; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    T 10
US-08-478-675-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX:
```

```
TITLE OF INVENTION: METHODS AND COMPOSITIONS USEFUL IN THE TITLE OF INVENTION: METHODS AND COMPOSITIONS USEFUL IN THE TITLE OF INVENTION: METHODS AND CELL GROWTH, NEOPLASIA AND IMMUNOREGULATION TITLE OF INVENTION: INVOLVED IN CELL GROWTH, NEOPLASIA AND IMMUNOREGULATION NUMBER OF SEQUENCES: 101
CORRESPONDENCE ADDRESS: ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, ADDRESSEE: P.C. STREET: 1755 Jefferson Davis Highway, Fourth Floor CITY: Allington
       102 IALVNGTTGAVL-GQKAFDMYS--GDVMHLVKFLKEIPGGALV-LVASYD-DPG-TKMND 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 VLMVYGLDQSKMNGDRVFNVFCLYGNVEK-VKFMKSKPGAAMVEMADGYAVDRAITHLNN 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 85; DB 1; Length 76; Pred. No. 7.03e+01; 19; Mismatches 17; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                            76 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5525495man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 714-158-0 CIP
TELECOMUNICATION:
TELECHONE: (703)413-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUFTWARE: CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/120,827
FILING DATE: 15-SEP-1993
CTASSIFICATION: 435
                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                            Sequence 9, Application US/08120827
Patent No. 5525495
GENERAL INFORMATION:
APPLICANT: KEENE, JACK D.
APPLICANT: KING, PETER H.
APPLICANT: LEVINE, TODD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: peptide
JENCE 76 AA; 8481 MW; 29179 CN;
                                                                                                                                                                                                                                             Sequence 9, Application US/08120827
                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (703)413-2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (703)413-2220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 76 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 5.0%;
Best Local Similarity 29.5%;
Matches 18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: U.S.A. ZIP: 22202
                                                                                                                            JT 12
US-08-120-827-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                       156 E 156
                                       09 N 09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     156 E 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60 N 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                            XXXXXX
                                                                                                                          RESULT
                                                                                                                                          õ
                                     g
                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 9, Application US/07881075

Patent No. 5444149

CENERAL INFORMATION:
CENERAL OF INVENTION:
CENERAL OF INVEN
                                                                       ý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .9
                                                                                                                      1 VLMVYGLDQSKMNGDRVFNVFCLYGNVEK-VKFMKSKPGAAMVEMADGYAVDRAITHLNN 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7; Gaps
                                                                       ΄,
                                 Score 85; DB 1; Length 76;
Pred. No. 7.03e+01;
19; Mismatches 17; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 85; DB 1; Length 76;
Pred. No. 7.03e+01;
19; Mismatches 17; Indels
                                                                                                                                                                                                                                                                          76 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
76 AA; 8481 MW; 29179 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JE TYPE: peptide 76 AA; 8481 MW; 29179 CN;
                                                                                                                                                                                                                                                                                                                                                                            Sequence 9, Application US/07881075
                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6 amino acids
                              Query Match 5.0%;
Best Local Similarity 29.5%;
Matches 18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 29.5%;
Matches 18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE:
                                                                                                                                                                                                                                                                      US-07-881-075-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                     156 E 156
                                                                                                                                                                     60 N 60
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                            XXXXXX
                                                                                                                                                                                                                                                      RESULT
တ္တ
                                                                                                                                   à
                                                                                                                                                                   g
                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                        셤
```

13

RESULT

```
90067
                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-886-863-8
                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    XXXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                    ά
47 EIVRGATGLMTGAGDPSAVVN-VIRKLDPEVGKNY--ELGWKDGAETKGVDATLNVNNIF 103
                                                                                                                                                                                                                                                                                                                                                                                                                    5; Gaps
                                                          Sequence 8, Application PC/TUS9506764
GENERAL INFORMATION:
APPLICANT: The Regents of the University of California
TITLE OF INVENTION: CLONED leptospira OUTER MEMBRANE PROTEIN
NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                   Score 84; DB 4; Length 119;
Pred. No. 8.23e+01;
21; Mismatches 27; Indels
                                                                                                                                                                                        SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UNBER: PCT/US95/06764
FILING DATE: 25-MAY-1995
                                                                                                        ADDRESSEE: Fish & Richardson STREET: 4225 Executive Square, Suite 1400 CITY: La JOlla STATE: California COUNTRY: USA
119 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  119 AA.
                                                                                                                                                                                                                               ATTORNEY AGENT INFORMATION:
NAME: Haile, Ph.D., Lisa A.,
REGISTRATION NUMBER: 38,347
REFERENCE/DOCKET NUMBER: FD3602
TELEPHONE: (619) 678-5070
TELEPAX: (619) 678-5070
TELEPAX: (619) 678-5070
SEQUENCE CHARACTERISTICS:
PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                      119 AA; 12942 MW; 73190 CN;
                                             Sequence 8, Application PC/TUS9506764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 8, Application US/08249013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 8, Application US/08249013
                                                                                                                                                                                                                                                                                                        LENGTH: 119 amino acids
STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear
MOLECULE TYPE: protein
IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                        single
                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 5.0%;
Best Local Similarity 29.3%;
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             : : |: | : |:
193 EQ-FLKNSPDTNKYE 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  104 DKKYPRNATVTLRYD 118
                                                                                                                                                                                                                                                                                                              TYPE: amino acid
STRANDEDNESS: Si
                                                                                                                                                                                                                          CLASSIFICATION:
                                                                                                                                                   92037
PCT-US95-06764-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-249-013-8
                                                                                                                                                                                                                                                                                                                                                                               LOCATION:
                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   XXXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CXEXEXEX
                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
```

```
4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         47 EIVRGATGLMTGAGDPSAVVN-VIRKLDPEVGKNY--ELGWKDGAETKGVDATLNVNNIF 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 8, Application US/08886863
Patent No. 5824321
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL HEAREN, DAVIG A.
TITLE OF INVENTION: CLONED leptospira OUTER MEMBRANE PROTEIN
NUMBER OF SEQUENCES: 10
CORRESPONDENCES.
ADDRESSEE: Spensley Horn Jubas & Lubitz
STREET: 1880 Century Park East, Suite 500
PATENT NO. 5643754
GENERAL INFORMATION:
APPLICANT: HEAKE, David A.
TITLE OF INVENTION: CLONED leptospira OUTER MEMBRANE PROTEIN
NUMBER OF SEQUENCES: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 84; DB 1; Length 119;
Pred. No. 8.23e+01;
21; Mismatches 27; Indels
                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Rclease #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/249,013
FILING DAME: 25-MAY-1994
                                                                                                                                            ADDRESSEE: Spensiey Horn Jubas & Lubitz
STREET: 1880 Century Park East, Suite 500
CITY: Los Angeles
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: PD-3602
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619) 455-5100
TELEFAX: (619) 455-5110
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCATION: 1
ICE 119 AA; 12942 MW; 73190 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 435
ATTORNEY/ACBNT INPORMATION:
NAME: TUMARKIN Ph.D., Lisa A.,
REGISTRATION NUMBER: P-38,347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 8, Application US/08886863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 119 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: linear MOLECULE TYPE: protein IMMEDIATE SOURCE:
                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 5.0%;
Best Local Similarity 29.3%;
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         : :|: | :|:
193 EQ-FLKNSPDTNKYE 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            104 DKKYPRNATVTLRYD 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS:
```

```
CITY: LGS
STATE: Califor...
COUNTY: USA
ZIP: 90067
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION NATA:
APPLICATION NAMEER: US/08/886,863
CC. STILING DATE: 01-JUL-1997
CC. TASSIEFCATION: A35
CC. PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/249,013
CC. RECISTRATION NUMBER: P-88,347
CC. RECISTRATION NUMBER: P-88,347
CC. RECISTRATION NUMBER: P-98,347
CC. TELEPONE: (619) 455-510
CC. TELEPONE: (619) 455-510
CC. SEQUENCE CHARACTERISTICS:
CC. SEQUENCE CHARACTERISTICS:
CC. SEQUENCE: SID10
CC. STRANDENESS: Protein
IMMEDIATE SOURCE:
"'ONE: PUPA
PROTE: PUPA

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 5.0%; Score 84; DB 2; Length 119; Best Local Similarity 29.3%; Pred. No. 8.23e+01; Matches 22; Conservative 21; Mismatches 27; Indels
```

47 EIVRGATGLMTGAGDPSAVVN-VIRKLDPEVGKNY--ELGWKDGAETKGVDATLNVNNIF 103 a a ò

5; Gaps

104 DKKYPRNATVTLRYD 118

: : |: | : |: 193 EQ-FLKNSPDTNKYE 206

Search completed: Wed May 31 11:05:48 2000 Job time : 10 secs.

Sequence:

Run on:

Searched:

```
em_gss8:*
em_gss9:*
em_gss10:*
em_gss10:*
em_gss11:*
gb_gss10:*
em_gss12:*
9b_est26:*

9b_est28:*

9b_est29:*

9b_est29:*

9b_est29:*

9b_est29:*

9b_est21:*

9b_est21:*

9b_est21:*

9b_est21:*

9b_est21:*

9b_est31:*

9b_est43:*

9b_est
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query
Result
                                                                                        May 31, 2000, 17:51:15 ; Search time 799.5 Seconds (without alignments) 3391.628 Million cell updates/sec
                                                                                                                                                                            1 atgmgngtnwsnggngtnyt......gyatgccnccnaarccntty 669
                                                                                                                                                                                                                                                                         9714632
            GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                            4857316 seqs, 2026611650 residues
                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                      summaries
                                                               OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                    IDENTITY_NUC Gapox 1.0
                                                                                                                                                                                                                                                                                                                                        0%
45
                                                                                                                                              US-09-186-342-8
669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gb_est13:*
gb_est14:*
gb_est15:*
gb_est17:*
gb_est17:*
gb_est18:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gb_est20:*
gb_est21:*
gb_est22:*
gb_est23:*
gb_est24:*
gb_est25:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              em_est13:*
em_est13:*
em_est14:*
em_est16:*
em_est15:*
em_est17:*
em_est19:*
em_est19:*
em_est13:*
gb_est2:*
gb_est3:*
gb_est3:*
gb_est4:*
gb_est5:*
gb_est6:*
gb_est6:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gb_est9:*
gb_est10:*
gb_est11:*
gb_est12:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      em_est10:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_est11:*
                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match
Listing first
                                                                                                                                                                                                                                                                                                 Minimum DB seq length: 0
Maximum DB seq length: 1000000
                                                                                                                                                                                                                                                                                                                                                                                              em_est1:*
em_est2:*
em_est4:*
em_est5:*
em_est7:*
em_est8:*
em_est8:*
                                                                                                                                                                                                                                                                                                                                                                                 EST:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title:
Perfect score:
                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                 Database :
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

gb_gss12:*
gb_gss13:*
gb_gss14:*
gb_gss14:*
gb_gss15:*

SUMMARIES

us-09-186-342-8.rst

Š.

ပပ

ပပ

ပ

Tissue Procurement: Christo	R. Emmert-Buck, M.D., Ph.D Technologies, Inc. cDNA Lib I.M.A.G.E. Consortium DNA & Genome Sequencing Center Clone distribution: NGI-CG Cound through the I.M.A.G.I www-bio.llnl.gov/bbrp/image	Possible reversed clone: possible reversed clone: possible reversed clone; possible from Gibb High quality sequence stop: High quality sequence stop: Location/Qualifice Location/Qualifice Ada_xref="hawc: 16"/" Ada_xref="hawc: 26"/" Also = "mode" Also = "	Dy Life Technology BASE COUNT 137 a 192 c 159 g ORIGIN Query Match Best Local Similarity 57.5%; Pred. Matches 181; Conservative 77; Mi Qy 355 qayatqtaywsnqqqqqqqqqqqqqq	645 645 645 645 645 655 655 655	405 655 345 345 345 SULT 2 001287/C CUS FINITION FRION RSION
Description	AW300770 xk05g02.x AW001287 wu27e06.x AA297147 EST112731 AI883327 fc60e01.y AW323823 uo77a04.y AI691072 wf22c03.x	A193121 WOOSTHOUS X AA611725 VOSSSTILL X AA297176 ESTIL2740 AA29644 ESTIL1212 AA451058 VER6h07.r AA56393 NK23b02.s N41338 YW6805.r1 AW17345 Fil35h03.y H26710 Yl14b12.r1 AA622758 NP76c04.s AA622758 NP76c04.s AA622758 NP76c04.s AA59360 QXL-BN000 A1348065 QXC-BN000 A1348065 QXL-BN000 A1348065 QXL-BN000 A1348065 QXL-BN000	AA847242 of01b11.s AW312831 312472 MAR AA622120 nq56b03.s A1801582 to31c11.x AA622570 np311f04.s AW001308 w128c10.x AW045110 um17g12.y AA552619 nk14e01.s AA652619 nk14e01.s AW258184 uq31e05.y	AA362591 EST72523 W54183 md17f04.r1 AW10752 um17f04.r1 AB40801 EST269405 AA379625 EST92751 AA408897 EST92751 AA407882 7P02F05 AA512284 v119903.r AA07882 7P02F05 C AA477410 v117h03.r AI038272 0y85906.x AW315346 12597 WAR AA402132 zu55b03.r	AW300770 645 bp mRNA EST 18-JAN-2000 XK05902.X1 NCI_CGAP_CO19 Homo sapiens cDNA clone INAGE:2665874 3/ Similar to SW:EF07_MOUSE P97805 PROTEIN EF-7; mRNA sequence. AW300770 GI:6710447 EST. Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Prinates; Catarrhini; Hominidae; Homo. I (basea 1 to 645) NCI_CGAP http://www.ncbi.nlm.nih.gov/ncicgap. NCI_CGAP http://www.ncbi.nlm.nih.gov NCI_CGAP http://www.ncbi.nlm.nih.gov NCI_CGAP http://www.ncbi.nlm.nih.gov NCI_CGAP http://www.ncbi.nlm.nih.gov
th DB ID	;	268 31 AA297175 268 31 AA297175 417 31 AA297175 417 31 AA297175 518 35 AA56393 518 35 AA56393 510 24 N4133 570 24 AW175415 554 36 AA622758 554 36 AA622758 554 36 AA622758 554 44 A1245950 354 48 AN369250 498 45 A1348065 519 35 AA592468	39 30 30 30 40 40 70 70 70	00000000000000000000000000000000000000	AW300770 645 bp mRNA EST KNO5902.X1 NCI_CGAP_CO19 Homo sapiens CDNA clone similar to SW:EF07_MOUSE P97805 PROTEIN EF-7;, r AW300770.1 GI:6710447 BEST. Homan. Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrai Eukaryota; Metazoa; Chordata; Craniata; Vertebrai Eukaryota; Metazoa; Chordata; Craniata; Vertebrai Eukaryota; Metazoa; Catarrhini; Hominidae; Homo. 1 (bases 1 to 645) NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap. NATIONAI Cancer Institute, Cancer Genome Anatomy Tumor Gene Index Unpublished (1997) Onn Jul 8, 1999 this sequence version replaced gi: Contact: Robert Strausberg, Ph.D. TREI: (301) 496-1550
Score Match Length DB	333.5 331.8 30.5 30.5 30.5	192.8 189.8 189.8 189.8 187.6 187.6 157.6	18.5 18.3 18.2 18.0 17.8 17.8 17.6		1 /C AW300770 645 b) SW XKO5902.X1 NCI_CGAP_ SIMILAT tO SW:EF07 N AW300770.1 GI:6710 EST. Homo sapiens Eukaryota; Metazoa; Eutheria; Primates; Eutheria; Primates; Eutheria; Primates; I (bases i to 645) NCI-CGAP http://www National Cancer Inst Tumor Gene Index I Unpublished (1997) On Jul 8, 1999 this Contact: Robert Straus Tel: (301) 496-1550 Email: Robert_Straus

RESULT 1 AW300770/c LOCUS DEFINITION

ACCESSION VERSION KEYWORDS SOURCE ORGANISM

REFERENCE AUTHORS TITLE

JOURNAL COMMENT

```
CGAP clone distribution information can be .E. Consortium/LLNL at: ge/image.html
                                                                                                                                                                                                                                                                                                                                                                                                              lon; Vector: pCMV-SPORT6; Site_1: Sall; oned unidirectionally. Primer: Oligo dT. t 50. Average insert size 1.32kb.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
topher A. Moskaluk, M.D., Ph.D., Michael D. CDNA Library Preparation: Life ibrary Arrayed by: Christa Prange, The Sequencing by: Washington University
                                                                                                                                                                                                                                                                                                                                55874"
SGAP_Co19"
Jerately differentiated adenocarcinoma"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aefe_colon_NHCD Homo sapiens cDNA_clone to SW:EF07_MOUSE P97805 PROTEIN EF-7 spetitive element ;, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gayccnggnacnaaratgaaygaygarwsnmgn 474
||:|| || || || ||:|||||:||:||: :| |
|SATCCAGGACCAAATGAACGATGAAAGCAGA 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        taygcnaarcarytnggnttymgngaywsntgg 534
||:|| ||:||:|| || ||:|| ||:|| ||:
|RAGCAAAACAACTGGGCTTCCGGGACAGCTGG 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ggnaarwsnccnttygarcarttyytnaaraay 594
|| ||::: || ||:||:||:|| ||:||:
GGTAAAAGCCCCTTTGAGCAGTTCTTAAAGAAC 406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tggccngarytnytngaratggarggntgyatg 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ytngtnaarttyytnaargarathccnggnggn 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ita; Craniata; Vertebrata; Mammalia;
rhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         re 224; DB 79; Length 645;
d. No. 1e-48;
Mismatches 57; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nlm.nih.gov/ncicgap.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST
                                                                                                                                                                                         polyT not found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          156 t
                                                                                                                                                                                                                                                                                            apiens"
                                                                                                                                                                                                                                  403.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gies."
                                                                                                                                                                                                                                                       ers.
```

```
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: arkerlav@tigr.org
AA297147.1 GI:1949521
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 175; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE
                                                                                                                                REFERENCE
                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                     VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                           SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                     /note="Organization" (Ping) residual processes and medified polylinker; Site_1: Not 1; Site_2: Eco RI; Ist strand cDNA was primed with a Not 1: -011go(dT) primer [5' rGTTARCAANGTGGARGGGGCGCGCTGTTTTTTTTTTTTTTTT 3'], double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pr7T3 vector. Library went through one round of normalization. Tissue samples provided by Dr. Brian Dieckgraefe (Washington University, diecase involvement from moderate to severe Croim's disease; samples include both perforating (fistulas) and non-perforating samples. Library constructed by Bento Soares and M. Fatima Bonaldo. " and 197 c 170 g 159 t.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                            /db_xref="taxon:9606"
/clone="IMAGE:2521282"
/clone="IMAGE:2521282"
/tissue=type="colonic mucosa from 3 patients with Crohn's disease"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AA297147 306 bp mRNA EST 18-APR-1997 EST112731 Colon I Homo sapiens CDNA 5' end similar to similar to 2-19 protein, mRNA sequence.
                                      Tumor Gene Index
Unpublished (1997)
On May 9, 1996 this sequence version replaced gi:1132811.
Contact: Robert Strausberg, Ph.D.
Tel: (301) 496-1550
Email: Robert_Strausberg@nih.gov
This clone is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information.
Seq primer: -400P from Gibco
                        National Cancer Institute, Cancer Genome Anatomy Project (CGAP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       341 gncaraargcnttygayatgtaywsnggngaygtnatgcayytngtnaarttyytnaarg 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        667 GCCAGCAGCCATTTGACATGCACTTAGGAGAAGTTATGCACCTAGTGAAATTCCATAAGA 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     461 aygaygarwsnmgnaarytnttywsngayytnggnwsnwsntaygcnaarcarytnggnt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tymgngaywsntgggtnttyathggngcnaargayytnmgnggnaarwsnccnttygarc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      arttyytnaaraaywsnccngayacnaayaartaygarggntggccngarytnytngara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 668;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66; Indels
                                                                                                                                                                                                                                                                                                                                                                         /lab_host="DH10B (phage-resistant)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33.5%; Score 223.8; DB 6.56.2%; Pred. No. 1.1e-48; Live 78; Mismatches 66
                                                                                                                                                                                                                                                              /organism="Homo sapiens"
                                                                                                                                                                                                       High quality sequence stop: 478.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tggarggntgyatgccnccnaarccntty 669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                         1. .668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best_Local Similarity
Matches 185; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
AA297147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                           JOURNAL
                                                                                                                                                                                                                            FEATURES
                        TITLE
                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
```

```
Garach, Karlavage, A. R., Fleischmann, R. D., Fuldner, R. A.,
Adams, M. D., Karlavage, A. R., Fleischmann, R. D., Fuldner, R. A.,
Bult, C. J., Lee, N. H., Kirkness, E. F., Weinstock, K. G., Gocayne, J. D.,
White, O., Sutton, G., Blake, J. A., Brandon, R. C., Man-Wal, C.,
Clayton, R. A., Cline, T. R., Cotton, M. D., Earle-Hughes, J., Fine, L. D.,
Fitzgerald, L. M., Fitzhugh, W. M., Fritchman, J. L., Geoghagen, N. S.,
Glodek, A., Gnehm, C. L., Hanna M. C., Hedblom, E., Hinkle, P. S. Jr.,
Kelley, J. M., Kelley, J. C., Liu, L. -I., Marmaros, S. M., Merrick, J. M.,
Moreno-Palangues, R. F., McDonald, L. A., Nguyen, D. T., Pelligtino, S. M.,
Phillips, C. A., Ryder, S. E., Scott, J. L., Sacdek, D. T., Pelligtino, S. M.,
Bednarik, D. P., Cao, L., Cepeda, M. A., Coleman, J. F., Li, Y.,
Bednarik, D. P., Cao, L., Cepeda, M. A., Coleman, T. A., Collins, E. J.,
Dimke, D., Feng, D. F., Ferrie, A., Fischer, C., Hastings, G. A.,
Kozak, D. L., Kunsch, C., Hungjun, J., Li, H., Meissner, P. S., Olsen, H.,
Raymond, L., Wei, Y. F., Wing, J. K., VI, G. L., Ruben, S. M.,
Dillion, P. J., Fannon, M. R., Rosen, C. A., Haseltine, W. A., Fields, C.,
Fraser, C. M. and Venter, J. C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Initial assessment of human gene diversity and expression patterns based upon 83 million nucleotides of cDNA sequence Nature 377 (6547 Suppl), 3-174 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              For clone availability, additional sequence and expression information related to this BST, please check the TIGR Human Gene Index (http://www.tigr.org/tdb/hgi/hgi.html)
Seq primer: M13 Reverse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vector: pBluescript SK-; Site_1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302 ayathgcnytngtnaayggnacnacnggngcngtnytnggncaraargcnttygayatgt 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362 aywsnggngaygtnatgcayytngtnaarttyytnaargarathccnggnggngcnytng 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                    Chordata; Craniata; Vertebrata; Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    422 tnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytnt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         482 tywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtnttya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 ACATCGCCCTGGTGAATGGAACCACGGGAGCTGTGCTGGGACAGAAGGCATTTNACATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       On Sep 12, 1996 this sequence version replaced gi:1288656.
Other_ESTs: THC166640
Contact: Kerlavage, AR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 31; Length 306;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bioinformatics
The Institute for Genomic Research
The Modical Center Drive, Rockville, MD 20850 USA
Tel: 3018699056
Fax: 3018699423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebra!
Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="ATCC (inhost):127921"
/db_xref="taxon:9606"
/clone_lib="Colon I"
/dev_stage="adult"
/note="Organ: colon; Vector: pBlu
ECORI; Site_2: XhoI"
a 70 c 83 g 63 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     32.4%; Score 216.6; DB 3 57.2%; Pred. No. 5.8e-47; ive 73; Mismatches 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1. .306
/organism="Homo sapiens"
```

VERSION KEYWORDS SOURCE ORGANISM

REFERENCE

DEFINITION

AI883327

ACCESSION

602

542

à 8 ð 셤

```
house mouse.
                                                                ď
                                                                                                                                          Query Match
                                                          BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                             429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    548
                                                                                                                                                                                                                                                                                                                                                                           308
                                                                                                                                                                                                                                                                                                                                                                                                                                                   368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
AW323823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCUS
                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                     Sebrafish.

Eabrafish.

Bunio rerio

Bukaryorda; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii;

Bukaryorda; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii;

Neopterygii; Teleostei; Buteleostei; Danio.

Cyprinoidea; Cyprinidae; Rasborinae; Danio.

I (bases 1 to 770)

Scark, M., Johnson, S.L., Lehrach, H., Lee, R., Li, F., Marra, M., Eddy, S., Hillier, L., Kucaba, T., Martin, J., Beck, C., Wylie, T., Underwood, K., Steptoe, M., Theising, B., Allen, M., Bowers, Y., Person, B., Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R. Hitter, E., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Washu Zebrafish Est Project 1998

Unpublished (1989)

On May 9, 1996 this sequence version replaced gi:1132813.

Contact: Stephen L. Johnson

Washington University School of Medicine

4444 Porest Park Parkway, Box 8501, St. Louis, MO 63108, USA

Tel: 314 286 1800

Fax: 314 286 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AI883327 778 bp mRNA EST 26-UUL-1999 fc60e01.yl Zebrafish WashU MPIMG EST Danio rerio cDNA 5' similar to SW:G786_HUMAN Q92520 PROTEIN GS3786.;, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: zbrafish@watson.wustl.edu

CDNA Library Preparation: Matthew Clark. CDNA Library Arrayed by:
Matthew Clark. DNA Sequencing by: Washington University Genome
Sequencing Center Clone distribution: Genome Systems, St. Louis,
Missouri (web address: www.genomesystems.com) (email contact:
Info@genomesystems.com) and Research Genetics, Huntsville, Alabama
(web address: www.resgen.com) (email contact: info@resgen.com) and
RessourcenZentrumPrimarDatenbank, Berlin, Germany (web address:
      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /Lissue_type="26 somite embryos, adult livers, shield stage embryos" /lab_host="XL1-blue MRF"
thggngcnaargayytnmgnggnaarwsnccnttygarcarttyytnaaraaywsnccng
                    www.rzpd.de)
Possible reversed clone: similarity on wrong strand
Seq primer: T3 ET from Amersham
High quality sequence stop: 467.
Location/Qualifiers
1. 778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="taxon:7955"
/clone_lib="Zebrafish WashU MPIMG EST"
/sex="mixed"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Danio rerio"
                                                                                                                                                                                                                                                                                       AI883327.1 GI:5588491
                                                                                                              301 ACACAA 306
                                                                          ayacna 607
```

TITLE JOURNAL COMMENT

source

FEATURES

```
In some cases multiple members of the same cluster were sequenced to assess clustering parameters or single clones were sequenced additional times to assess quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tel: (301) 496-1550
Email: Robert_Strausberg@nlh.gov
Tissue Procurement: Gilbert Smith, Ph.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NI-CGAP clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AW323823 525 bp inRNA EST 26-JAN-2000 uo77a04.yl NCI_CGAP_Maml Mus musculus cDNA clone IMAGE:2648526 5' similar to SW:G786_HUMAN 095520 PROTEIN GS3786.;, mRNA sequence. AW323823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus
Enkaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Entheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 525)
NII-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             248 tygargaymgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnytnaayathg 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           188 aytayttygcnttyaarathtgywsnggngcngcnaaygtngtnggnccnacnatgtgyt 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cnytnginaayggnacnacnggngcnginyinggncaraargcnitygayaigiaywsng 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGATGTGAATCTTCTTATCAAATTCTTGAAGAACATAGAAGATGGAAGCATTGTCATGA 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytnttywsng 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cnaargayytnmgnggnaarwsnccnttygarcarttyytnaaraaywsnccngayacna 607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        669 GCATAGGATATAAGACATAGAGCTCCTTTGAGCAGCACCATCAAGAACTATGCTGAGACTA 728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtnttyathggng
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tumor Gene Index
Unpublished (1997)
Unpublished (1997)
On Jul 28, 1997 this sequence version replaced gi:2065401.
Other ESTs: uo77804.xl
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                       DB 62; Length 778;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ayaartaygarggntggccngarytnytngaratggarggntgyatgcc 656
                                                                                                                                                                                                                                                                                           88; Mismatches 167; Indels
                                                                                                                                                                                                                                                                    Pred. No. 1.2e-45
                                                                                                                            ų
                                                                                                                                                                                                                                    31.8%; Score 212.6; 45.6%; Pred. No. 1.2
                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AW323823.1 GI:6757848
                                                                                                                                                                                                                                                              Best Local Similarity 45.0%
Matches 214; Conservative
                                                                                                                            บ
                                                                                                                         149
                                                                                               control
```

```
Tumor Gene Index
Unpublished (1997)
On Doc 20, 1995 this sequence version replaced gi:1134301.
On Doc 20, 1995 this sequence version replaced gi:1134301.
On the sequence sequence version replaced gi:1134301.
On the sequence sequence of the sequence of the sequence is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information. Insert Length: 893 Std Error: 0.00
Seq primer: -400F from Gibboo Seq primer: -400F from Gibboo High quality sequence stop: 476.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Charactal, digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization. Tissue samples provided by Dr. Brian Dieckgraefe (Washington University, dieckéim wustl.edu); colonic mucosa represents a range of disease involvement from mild cryptitis to severe ulceration, fibrosis, and degeneration. Library constructed by Bento Soares and M. Fatima Bonaldo. "

184 c 158 g 149 t 2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A1936111 646 bp mRNA EST 02-SEP-1999 wo61h03.x1 NCI_CGAP_Pr22 Homo sapiens cDNA clone IMAGE:2459861 3'
                                                                1 (bases 1 to 615)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                            /clone_lib="Soares_Dieckgraefe_colon_NHUC"
/tissue_type="colonic mucosa from 5 ulcerative colitis
patients"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               449 gnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntaygcna 508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              569 snccnttygarcarttyytnaaraawsnccngayacnaayaartaygarggntggccng 628 : || ||:||:||:||:|| ||:|| |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30.4%; Score 203.2; DB 5
58.0%; Pred. No. 3.1e-43;
iive 71; Mismatches 47
                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:2351332"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 30.45
Best Local Similarity 58.05
Matches 163; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AI936111/c
               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         374
                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                        /note-"Organ mammary; Vector: pCMV-SPORT6; Site_1: Sall; Site_2: NotI; Cloned unidirectionally. Primer: Oligo dT. Library constructed by Life Technologies. Investigator providing samples: Gilbert Smith, NulH 89 c 159 g 117 t 1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AI691072 615 bp mRNA EST 18-DEC-1999 wf22c03.xl Soares_Dieckgraefe_colon_NHUC Homo sapiens cDNA clone IMAGE:2351332 3' similar to SW:EF07_MOUSE P97805 PROTEIN EF-7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       290 gnmgnggnytnaayathgcnytngtnaayggnacnacnggngcngtnytnggncaraarg 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      110 cnmgntggytngcnwsnccnacnaargarathcargtnaaraartayaartgyggnytna 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               170 thearccntgyccngcnaaytayttygcnttyaarathtgywsnggngcngcnaaygtng 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   62 CAAAGGCGTGCCCAGAGAAGCATTTTGCTTTTAAGATGGCTAGTGGAGCAGCCAATGTCG 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               302 ACGGAACAGTAGTGCTAATGGCTACATACGATGATGGAGCAACCAAACTCACGGATGAGG 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            362 CAGCGGAGCTCATTGCTAAACTGGGCAGCACGTTGATCACCAGTCTTGGTATCCGAGATA 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 530 sntgggtnttyathggngcnaargayytnmgnggnaarwsnccnttygarcarttyytna 589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      230 tnggnccnacnatgtgyttygargaymgnatgathatgwsnccngtnaaraayaaygtng
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           snmgnaarytnttywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngayw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                          Length 525;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             araaywsnccngayacnaayaartaygarggntggccngaryt 632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                samble,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  211;
                                                                                                                                                                                                                                                                                                                                                                                                                            30.5%; Score 204; DB 80; 43.2%; Pred. No. 1.7e-43;
                                                                                                                                          /strain="FVB/N"
/db_xref="taxon:10090"
/clone="IMAGE:2648556"
/clone=lib="NCI_CGAP_Mam1"
/tissue_type="tumor, biopsy sam;/dev_stage="3 months, virgin"
/lab_host="DH108"
www-bio.llnl.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86; Mismatches
                                                                                                                            /organism="Mus musculus"
                             MGI:1028978
Seg primer: -40RP from Gibco
High quality sequence stop: 2
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MRNA sequence.
A1691072
A1691072.1 GI:4902374
BST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  226; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                    159
                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A1691072/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                482
                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

ö

Gaps

.; 0

```
ð
                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          å
                                                                                                                                                                                                                          Unpublished (1997)
On May 18, 1998 this sequence version replaced gi:3138334.
On May 18, 1998 this sequence version replaced gi:3138334.
On Contact: Robert Strausberg, Ph.D.
Tel: (301) 496-1550
Email: Robert Strausbergenih, gov
Tissue Procurement: Michael J. Brownstein, M.D., Ph.D., Michael R.
Emmert-Buck, M.D., Ph.D.
CDNA Library Preparation: M. Bento Soares, Ph.D.
CDNA Library Prarayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNI at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note—"Organ: prostate; Vector: pT713D-Pac (Pharmacia)
with a modified polylinker; 1st strand cDNA was prepared
from normal prostate bulk tissue, and was then primed with
a Not I. - oligo(dT) primer. Double-stranded cDNA was
ligated to Eco RI adaptors (Pharmacia), digested with Not
I and cloned into the Not I and Eco RI slates of the
modified pT713 vector. Library is normalized, and was
constructed by Bento Soares and M. Fatima Bonaldo. "
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutherla; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 646)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cnytngtnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgna 475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 similar to SW:EF07_MOUSE P97805 PROTEIN EF-7 ;, mRNA sequence.
A1936111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              476 arytnttywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tnttyathggngcnaargayytnmgnggnaarwsnccnttygarcarttyytnaaraayw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 62; Length 646;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30.0%; Score 200.8; DB 62; Length 53.2%; Pred. No. 1.4e-42; Ive 76; Mismatches 71; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /tissue_type="normal prostate"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ww-bio.llnl.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone="IMAGE:2459861"
/clone_lib="NCI_CGAP_Pr22"

    646
    /organism-"Homo sapiens"
/db_xref-"taxon:9606"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Seg primer: -40UP from Gibco
High quality sequence stop: 438.
Location/Qualifiers
                                         AI936111.1 GI:5674981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
Matches 167; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          đ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        134
                                                                                     human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             536
                                       VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           416
                     ACCESSION
                                                                                                                                                                    REFERENCE
                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

```
Dietrich, N., Dubuque, T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       double-stranded cDNA was ligated to Eco RI s fAATTCGGATCCTTG], digested with Not I and cloned
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                           vo89f11.rl Barstead mouse irradiated colon MPLRB7 Mus musculus cDN clone IMAGE:1066317 5' similar to TR:G452270 G452270 2-19 PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  adaptors [AATTCGGATCCTTG], digested with Not I and clc
into the Not I and Eco RI sites of the modified pT7T3
vector. Library constructed by Bob Barstead. "
127 g 89 t lothers
                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 461)
Marra, M., Hillier, L., Allen, M., Bowles, M., Dietrich, N., Dubuqu Gelsel, S., Kucaba, T., Lacy, M., Le, M., Martin, J., Morris, M., Schellenberg, K., Steptoe, M., Tan, F., Underwood, K., Moore, B., Theising, B., Wylie, T., Lennon, G., Soares, B., Wilson, R. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               317 ayggnacnacnggngcngtnytnggncaraargcnttygayatgtaywsnggngaygtna 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              377 tgcayytngtnaarttyytnaargarathccnggnggngcnytngtngtngtngcnwsnt 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              75 AACTCCTGCTGAACTTCCTTACGGAAATTCCAGATAGCACCCTGGTGTNGGTAGCCTCCT 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15 ACGGATCAACTGGCCAGGTGATGAAAAGGACAGCTTTGACATGTACTCTGGAGACCCCC 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone_lib="Barstead mouse irradiated colon MPLRB7"
/dev_stage="8 weeks"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The Washu-HHMI Mouse EST Project Unpublished (1996)
On Sep 12, 1996 this sequence version replaced gi:1405306. Contact: Marra M/Mouse EST Project Washu-HHMI Mouse EST Project Washington University School of MedicineP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108 Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 461;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28.8%; Score 192.8; DB 36; Length 49.6%; Pred. No. 1.5e-40; ive 75; Mismatches 100; Indels
                                                                                                                                                                       EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Seq primer: -28ml3 rev2 ET from Amersham
High quality sequence stop: 422.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Mus musculus"
/strain="FVB/N"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: mouseest@watson.wustl.edu
                                                                                                                                                                                                                                           PRECURSOR. ;, mRNA sequence.
                                                                                                                                                                                                                                                                                     AA611725.1 GI:2461760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 49.6
Matches 172; Conservative
  699
                         1. .461
656 cnccnaarccntty
                                                                                                                                                                                                                                                                                                                                                                Mus musculus
                                                                                                                                                                                                                                                                                                                                          house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Waterston, R.
                                                                                                                                                                  AA611725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                LOCUS
                                                                                                                     æ
                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                     RESULT
AA611725
                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
```

g ŏ qq à g à g

```
ECORI;
                       74 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12140200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
MEDLINE
                       BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA298484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eutheria; Primates; Catarrhin; Hominidae; Neuronia Eutheria; Primates; Catarrhin; Hominidae; Homo.

1 (bases 1 to 266)

83 Adams, M.D., Kerlavage, A.R., Fleischmann; R.D., Fuldner, R.A.,
Bult, C.J., Lee, N.H., Kirkness; E.F., Weinstock, K.G., Gocayne, J.D.,
White, O., Sutton, G., Blake, J.A., Brandon, R.C., Man-Wal, C.,
Clayton, R.A., Cline, T.R., Cotton, M.D., Earle-Hughes, J., Fine, L.D.,
Fitzgerald, L.M., Fitzhugh, W.M., Fritchman, J.L., Geoghagen, N.S.,
Glodek, A., Gnehm, C.L., Hana, M.C., Hachlom, E., Hinkle, P.S.Jr.,
Kelley, J.M., Kelley, J.C., Liu, L.-I., Marmaros, S.M., Merrick, J.M.,
Moreno-Palanques, R.F., McDonald, L.A., Nquyen, D.T., Pelligrino, S.M.,
Phillips, C.A., Ryder, S.E., Scott, J.L., Saudek, D.M., Shirley, R.,
Small, K.V., Spriggs, T.A., Utterback, T.R., Weidman, J.F., Li, Y.,
Bednarik, D.P., Cao, L., Cepeda, M.A., Coleman, T.A., Collins, E.J.,
Dinke, D., Feng, D.-F., Ferrie, A., Fischer, C., Hastings, G.A.,
Rozak, D.L., Kunsch, C., Hungjun, J., Li, H., Meissner, P.S., Olsen, H.,
Rymond, L., Weil, Y.F., Wing, J., Xu, C., Yu, G.L., Ruben, S.M.,
Dillion, P.J., Fannon, M.R., Rosen, C.A., Haseltine, W.A., Fields, C.,
Fraser, C.M. and Venter, J.C.
Initial assessment of human gene diversity and expression patterns
based upon 83 million nucleotides of cDNA sequence
Nature 377 (6547 Suppl.), 3-174 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       For clone availability, additional sequence and expression information related to this EST, please check the TIGR Human Gene Index (http://www.tigr.org/tdb/hgi/hgi.html)
Seq primer: MI3 Reverse.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AA297176 268 bp mRNA EST 18-APR-1997
EST112740 Colon I Homo sapiens CDNA 5' end similar to similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone_lib="Colon I"
/dev_stage="adult"
/note="organ: colon; Vector: pBluescript SK-; Site_1:
                                                                                                                               aygaygayccnggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnw 496
                                                  557 tnmgnggnaarwsnccnttygarcarttyytnaaraaywsnccngayacnaayaartayg 616
                                                                                                                                                                                                                                                                                 255 TCAAGAGTAAAAGCCCATATGAGCAGTTCTTAAAGAACAACCCAGAAACAACAATATG 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             On Sep 12, 1996 this sequence version replaced gi:1288046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The Institute for Genomic Research
9712 Medical Center Drive, Rockville, MD 20850 USA
Tel: 3018699056
                                                                                                                                                                                                                                                                                                                                    617 arggntggccngarytnytngaratggarggntgyatgccnccnaar 663
                                                                                                                                                                                                                                                                                                                                                                 /db_xref="ATCC (inhost):128009"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2-19 protein, mRNA sequence. AA297176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: arkerlav@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Other_ESTs: THC166640
Contact: Kerlavage, AR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA297176.1 GI:1949530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fax: 3018699423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bioinformatics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
MEDLINE
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT SAA297176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
```

```
Luturitary Figures; Catarring, Hominidae; Homo.

Ex adums, M.D., Kerlavage, A.R., Fleischmann, R.D., Fuldner, R.A.,

Adams, M.D., Kerlavage, A.R., Fleischmann, R.D., Fuldner, R.A.,

Bult, C.J., Lee, N.H., Kirkness, E.F., Weinstock, K.G., Gocayne, J.D.,

White, O., Sutton, G., Blake, J.A., Brandon, R.C., Man-Wai, C.,

Clayton, R.A., Cline, T.R., Cotton, M.D., Earle-Hughes, J., Fine, L.D.,

Fitzgerald, L.M., Fitzhugh, W.M., Fritchman, J.L., Geoghagen, N.S.,

Glodek, A., Gnehm, C.L., Hanna, M.C., Hedblom, E., Hinkle, P.S. Jr.,

Kelley, J.M., Kelley, J.C., Liu, L.I., Marmaros, S.M., Merrick, J.M.,

Moreno-Palanques, R.F., McDonald, L.A., Nguyen, D.T., Pelligrino, S.M.,

Phillips, C.A., Ryder, S.E., Scott, J.L., Saudek, D.M., Shirley, R.,

Small, K.V., Spriggs, T.A., Utterback, T.R., Weidman, J.F., Li, Y.,

Bednarik, D.P., Cao, L., Cepeda, M.A., Coleman, T.A., Collins, E.J.,

Dimke, D., Feng, D.-F., Ferrie, A., Fischer, C., Hastings, G.A.,

Kozak, D.L., Kunsch, C., Hungjun, J., Li, H., Meissner, P. S., Olsen, H.,

Raymond, L., Wei, Y.F., Wing, J., Xu, C., Yu, G.L., Ruben, S.M.,

Fraser, C.M. and Venter, J.C.

Initial assessment of human gene diversity and expression patterns

Nature 377 (6547 Suppl), 3-174 (1995)
                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA298484 417 bp mRNA EST 18-APR-1997 EST14112 Prostate gland I Homo sapiens cDNA 5' end similar to similar to 2-19 protein, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                           504
                                                                                                                                                                                                                                                   265 atgwsnccngtnaaraayaaygtnggnmgnggnytnaayathgcnytngtnaayggnacn 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                  On Sep 12, 1996 this sequence version replaced gi:1393927 Other_ESTs: THC166640
                                                                                                                                                                                               ;
                                                                                                                                          Length 268;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The Institute for Genomic Research
9712 Medical Center Drive, Rockville, MD 20850 USA
Tel: 3018699056
                               others
                                                                                                                                                                                                 Indels
                                                                                                                                             DB 31;
                                                                                                                                                                                                 53;
                                                                                                                                        28.4%; Score 189.8; DB 3. 57.5%; Pred. No. 6.6e-40; iive 61; Mismatches 53
                               t,
                            57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        505 gcnaarcarytnggnttymgngaywsnt 532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 GCAAACAACTGGGCTTCCGGGACAGCT 268
Site_2: XhoI"
8 c 78 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fax: 3018699423
Email: arkerlav@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Kerlavage, AR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA298484
AA298484.1 GI:1950827
                                                                                                                                                                                                 Matches 154; Conservative
                            28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bioinformatics
                                                                                                                                             Query Match
Best Local Similarity
```

œ

```
AA563933 518 bp mRNA EST 05-SEP-1997 nk23b02.s1 NCI_CGAP_CO11 Homo sapiens CDNA clone IMAGE:1014315 3' similar to TR:G452270 G452270 2-19 PROTEIN PRECURSOR. ;, mRNA sequence.
      MAGE Consortium (info@image.llnl.gov) for further information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 taywsnggngaygtnatgcayytngtnaarttyytnaargarathccnggnggngcnytn 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gayacnaayaartaygarggntggccngarytnytngaratggarggntgyatgccnccn 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Mammalia,
Butheria, Primates, Catarrhini, Hominidae, Homo.
1 (bases 1 to 518)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ttywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtntty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541 athggngcnaargayytnmgnggnaarwsnccnttygarcarttyytnaaraaywsnccn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 33; Length 387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25.9%; Score 173.2; DB 33;
49.5%; Pred. No. 2.1e-35;
tive 71; Mismatches 82;
                 MOI:502669
Seq primer: -28ml3 rev2 ET from Amersham
High quality sequence stop: 382.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                      82 t
                                                                                                                                                                                                                                                                                                                                                                                                                                     95 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AA563933.1 GI:2335572
                                                                                                                                                                                                                                                                                                                                                                                                                                      101 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                     Bonaldo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                     109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA563933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aar 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAA 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
AA563933/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutherla; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 387)
Marra,M., Hillier,L., Allen,M., Bowles,M., Dietrich,N., Dubuque,T., Gelsea,S., Kucaba,T., Lacy,M., Le,M., Martin,J., Morris,M., Te,M., Maria,M., Tan,E., Underwood,K., Moore,B., Theising,B., Wylle,T., Lennon,G., Soares,B., Wilson,R. and
                                                                                                                                                                                                                                                                                                                                    5;
For clone availability, additional sequence and expression information related to this EST, please check the TIGR Human Gene Index (http://www.tigr.org/tdb/hgi/hgi.html) seq primer: MI3 Reverse.
                                                                                                                                                      /Glone_in_
/sex="male" adult, 21 yrs"
/dev_stage="adult, 21 yrs"
/note="Organ: prostate; Vector: pBluescript SK-; Site_1:
ECCRI; Site_2: XhoI"
- 114 c 106 g 90 t 7 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The Washur near Noves Correct (1996)
On Sep 12, 1996 this sequence version replaced gi:1394413.
On Sep 12, 1996 this sequence version replaced gi:1394413.
Ontact: Marsh Mydouse EST Project
Washir-HHMI Mouse EST Project
Washington University School of Medicinep
Washington University School of Medicinep
Washington University School of Medicinep
Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          130 acnaargarathcargtnaaraartayaartgyggnytnathaarccntgyccngcnaay 189
                                                                                                                                                                                                                                                                                                                                                                              249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA451058 387 bp mRNA EST 04-JUN-1997 vf86h07.rl Soares_mammary_gland_NbMMG Mus musculus cDNA clone INAGE:850717 5' similar to TR:G452270 G452270 2-19 PROTEIN AA451058
                                                                                                                                                                                                                                                                                                                                                                                                                                               190 tayttygcnttyaarathtgywsnggngcngcnaaygtngtnggnccnacnatgtgytty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          310 yinginaayggnacnacnggngcnginyi-nggncaraargcniiygayaigiaywsngg
                                                                                                                                                                                                                                                                                                                                    5;
                                                                                                                                                                                                                                                                                                   DB 31; Length 417;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              369 ngaygina-igcayyinginaarityyinaargarathconggnggngc 416
                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                              Query Match 28.0%; Score 187.6; DB 31; Best Local Similarity 62.6%; Pred. No. 3.3e-39; Matches 181; Conservative 56; Mismatches 50;
                                                                                 1. .417
/organism="Homo sapiens"
/db_xref="ATCC (inhost):175003"
/db_xref="texon:9606"
/clone_lib="Prostate gland I"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The WashU-HHMI Mouse EST Project
                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA451058.1 GI:2164728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              house mouse.
                                                                                                                                                                                                                                 100
                                                                                   source
                                                                                                                                                                                                                                 COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA451058
                                                                                                                                                                                                                               BASE CO
```

Locus

õ 셤 ò g ð 셤 οy g õ 셤

ö

ö

and

COMMENT

```
Jab_now_caper_Delocations.

Jab_now_caper_Delocations.

Jab_note="Options (amplications)"

Modified polylinker: Site_1: Not I: Site_2: Eco RI: 1st

strand cDNA was primed with a Not I: -oligo(dT) primer [5'

GUDIS-stranded cDNA was size selected, ligated to Eco RI

adapters (Pharmacia), digested with Not I and cloned into

the Not I and Eco RI sites of a modified pT7T3 vector

(Pharmacia). Library constructed by Bento Soares and

M.Fatlma Bonaldo. "

4 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone="IMAGE:257432"
/clone_lib="Soarse_placenta_8to9weeks_2NbHP8to9w"
/dev_stage="two placentae: one from 8 weeks and another
from 9 weeks post conception"
                                                                                                                                                                                                                                                                   High quality sequence stops: 331
Source: IMAGE Consortium, LLNL
This clone is available royalty-free through LLNL; contact the
IMAGE Consortium (info@image.llnl.gov) for further information.
Seq primer: T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     408 nggnggngcnytngtnytngtngcnwsntaygaygayccnggnacnaaratgaaygayga 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        348 rgcnttyyayatgtaywsnggngaygtnatgcayytngtnaarttyytnaargarathcc 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14 GGCTTCTGACATGTGGGCCGGAGATGTCAACGACCTGTTGAAGTTTATT-CGGCCACTGA 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 468 rwsnmgnaarytnttywsngayytnggnwsnwsntaygcnaarcarytnggnttymgnga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           528 ywsntgggtnttyathggngcnaargayytnmgnggnaarwsnccnttygarcarttyyt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The Washlu-Merck EST Project
Unpublished (1995)
On May 8, 1995 this sequence version replaced gi:801446.
Contact: Wilson RK
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Fea: 314 286 1800
Fea: 34 286 1810
Email: estewatson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
    Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F.,
Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 24; Length 410;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23.6%; Score 157.6; DB 2
48.4%; Pred. No. 2.9e-31;
ive 69; Mismatches 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/db_xref="GDB:3887042"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                    High quality sequence stop: 331.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ďq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         152; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                              1. .410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         648 ntgyatgccnccna 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     313 CTGTATCCCGCGGA 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AW175415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AW175415
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ă
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                           Tissue Procurement: Christopher Moskaluk, M.D., Ph.D., Elias Campo, M.D., Michael R. Emmert-Buck, M.D., Ph.D.
CDNA Library Preparation: Stratagene, Inc.
CDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-GGAP clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
www-bio.llnl.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCCAGTTTTTTTTTTTTTTT 3' Average insert size: 1.1 kb." 161 c 138 g 125 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="Organ: colon; Vector: Bluescript SK-; Site_1: EcoRI; Site_2: XhoI; Cloned unidirectionally. Primer: Oligo dr. Multiple colon tumors. 5' adaptor sequence: 5' GAATTCGGCACGAG 3' 3' adaptor sequence: 5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YW68G05.rl Soares_placenta_8to9weeks_2NbHP8to9W Homo sapiens cDNA clone IMAGE:257432 5', mRNA sequence.
  NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 451 acnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntaygcnaar 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 410)
H1111er,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M.,
HOlman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M.,
                                              Tumor Gene Index
Inpublished (1997)
On Sep 12, 1996 this sequence version replaced gi:1290555.
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24.1%; Score 161.4; DB 35; Length 518; 58.0%; Pred. No. 3.3e-32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. .518
Aorganism="Homo sapiens"
(Ab_xref="taxon:9606"
Aclone="IMAGE:1014315"
Aclone="IMAGE:1012_GAAP_Col1"
Atissue_type="tumor"
Atissue_type="tumor"
Atissue_SOLR (kanamycin resistant)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        338 CTGCTGGAGATGGAGGCTGCATGCCCCCGAAGCCATTT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ytnytngaratggarggntgyatgccnccnaarccntty 669
                                                                                                                                                                                                                                                                                                                                                                                Insert Length: 650 Std Error: 0.00 Seg primer: -40ml3 fwd. ET from Amersham High quality sequence stop: 452.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 58; Mismatches
                                                                                                                                   Tel: (301) 496-1550
Email: Robert_Strausberg@nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N41338.1 GI:1165369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity 58.09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 127;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 13
N41338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
```

ORIGIN

g

à 셤 ð g

ò

셤

à

FEATURES

ä

Gaps

527

587 252 647 312

SOURCE

454

```
335 tnytnggncaraargcnttygayatgtaywsnggngaygtnatgcayytngtnaarttyy 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 376 Hiller,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M., Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Treyaskis,E., Waterston,R., Williamson,A., Wohldmann,P. and
                                                                          395 tnaargarathconggnggngcnytngtnytngtngcnwsntaygaygayconggnacna
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        H26710 376 bp mRNA EST 12-JUL-
yl14b12.rl Soares breast 2NbHBst Homo sapiens CDNA clone
IMAGE:158207 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Homo sapiens"
/db_xref="GDB:572112"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               High quality sequence stop: 368.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The WashU-Merck EST Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 117 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /sex="Female"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          H26710
H26710.1 GI:896700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Seq primer: M13RP1
                                                                                                                                                                                                                                                                                     455 aratgaaygaygar 468
                                                                                                                                                                                                                                                                                                                                                      554 AGATGAATGACGAG 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
H26710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                  요
                                                                                           g
                                                                                                                                                            ò
                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii; Rukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi; Cypriniformes; Cyprinidae; Cyprinidae; Panio.

E 1 (bases 1 to 570)

Sugano,S., Kawakami,K., Johnson,S., Li,F., Marra,M., Eddy,S., Hiller,C., Cilffon,S., Allen,M., Gibbons,M., Jost,S., Kucaba,T., Martin,J., Pape,D., Steptoe,M., Underwood,K., Thetsing,B., Ritter,E., Bowers,Y., Wylie,T., Materston,R. and Wilson,R. Washu Zabrafish Est Project 1999

On Jun 22, 1998 this sequence version replaced gi:3246857.

Contact: S.L. Johnson

Washington University School of Medicine

Washington University School of Medicine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /grain="action of the color of 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Library constructed by Dr. Sumio Sugano and Dr. Koichi Kawakami DNA Sequencing by: Washington University Genome Sequencing Center Seq primer: T3 Er from Amersham High quality sequence stop: 523.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ô
f135h03.yl Sugano Kawakami zebrafish DRA Danio rerio cDNA clone 2639669 5' similar to SW:G786_HUWAN Q92520 PROTEIN GS3786.;contains THR.t3 THR repetitive element ;, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  155 ayaartgyggnytnathaarccntgyccngcnaaytayttygcnttyaarathtgywsng 214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      314 GAGCAGCCAGTGTTGTCGGCCCAAAGATGTGTTTTCAGGACAATGTAATGAGCGGGTG 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tnaaraayaaygtnggnmgnggnytnaayathgcnytngtnaayggnacnacnggngcng 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gngcngcnaaygtngtngtnggnccnacnatgtgyttygargaymgnatgathatgwsnccng
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23.5%; Score 157; DB 74; Length 570; 49.7%; Pred. No. 5.1e-31; ive 54; Mismatches 104; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism-"Danio rerio"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: est@watson.wustl.edu
                                                                                           AW175415
AW175415.1 GI:6441452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                          Danio rerio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ದ
                                                                                                                                                                                      zebrafish
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Simil
Matches 156; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
   DEFINITION
                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      275
                                                                                                                        VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
```

```
double-stranded CDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of a modified pT/T3 vector (Pharmacia). Library went through one round of normalization to a Cot = 230. Library constructed by Bento Soares and M.Fatima Bonaldo."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   High quality sequence stops: 368 Source: IRAGE Consortium, LLNL This clone is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
Unpublished (1995)
Contact: Wilson RK
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
Email: est@watson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 376;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 23.1%; Score 154.6; DB 23; Length Best Local Similarity 46.4%; Pred. No. 1.7e-30; Matches 166; Conservative 75; Mismatches 115; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="taxon:9606"
/clone="IMAGE:158207"
/clone_lib="Soares breast 2NbHBst"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64 t
```

Search completed: May 31, 2000, 17:51:19 Job time: 3436 sec

	•		• •	
			•	

Appli Appli

sednence sed

Sequence

Sequence Sequence Sequence S

OM nucleic

Run on:

Sequence:

Searched:

Minimum Maximum

```
APPLICANT: Yu, Guo-Liang
APPLICANT: Rosen, Craig
TITLE OF INVENTION: Colon Specific Genes and Proteins
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
ADDRESSEE: Carella, Byrne, Bain, Gilfillan, Cecchi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Carella, Byrne, Bain, Gilfillan, Cecchi, Stewart & Olstein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTER: NO

ZIP: 07068-1739
COMPUTER READABLE FORM:
MEDTUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
COUNTERNI APPLICATION DATA:
APPLICATION NUMBER: US/08/469,667
FILING DATE: 06-JUN-1995
CLASSIFICATION NUMBER: 36,134
REGISTRATION NUMBER: 35,134
REGISTRATION NUMBER: 35,134
REFERENCE/DOCKET NUMBER: 325,00-435
TELEPHONE: 201-994-1740
TELEPHONE: 201-994-1740
INFORMATION FOR SEO ID NO: 6: SEQUENCE CHARACTERISTICS:
LENGTH: 548 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2;
US-08-469-277-1
US-08-466-14
US-08-486-945-1
US-08-808-641-2
US-09-064-839-2
US-09-91-438-2
US-08-83-659A-11
US-08-83-659A-8
US-08-853-659A-8
US-08-853-659A-8
US-08-853-659A-8
US-08-853-659A-63
US-08-853-659A-63
US-08-853-659A-63
US-08-853-659A-63
US-08-853-659A-63
US-08-853-659A-63
US-08-853-659A-63
US-08-853-659A-7
US-08-853-659A-63
US-08-853-659A-63
US-08-853-659A-63
US-08-853-659A-63
US-08-853-659A-63
US-08-853-659A-63
US-08-853-659A-63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    44.0%; Score 294.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 6, Application US/08469667 Patent No. 5733748 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6 Becker Farm Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: mat_peptide LOCATION: 1..405
                                                      303
1269
1269
1526
1525
366
2260
15512
15512
15512
15512
15512
15512
24701
24701
24701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1..405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 6 Becke
CITY: Roseland
STATE: NJ
     00000000000000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; LOCATION:
US-08-469-667-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-469-667-6
     Query Match
     May 31, 2000, 19:14:15; Search time 57.43 Seconds (without alignments) 1514.191 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 5
Sequence 3
Sequence 3
Sequence 3
Sequence 5
Sequence 5
Sequence 1
Sequence 1
Sequence 1
Sequence 2
Sequence 2
Sequence 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence Seq
                                                                                                                                                                                                                                                                                                                                               1 atgmgngtnwsnggngtnyt......gyatgccnccnaarccntty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1: /cgn2_6/ptodata/2/ina/5A_COMB.seq:*
2: /cgn2_6/ptodata/2/ina/5B_COMB.seq:*
3: /cgn2_6/ptodata/2/ina/5C_COMB.seq:*
4: /cgn2_6/ptodata/2/ina/5D_COMB.seq:*
5: /cgn2_6/ptodata/2/ina/6_COMB.seq:*
6: /cgn2_6/ptodata/2/ina/PCTUS_COMB.seq:*
7: /cgn2_6/ptodata/2/ina/PCTUS_COMB.seq:*
                             GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-092-770-18
US-08-370-319C-2
US-08-724-394A-20
US-08-724-394A-21
US-08-724-394A-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-232-463-14
US-09-092-770-8
US-08-08-221-33-3
US-08-919-953-3
US-08-919-953-3
US-08-919-953-3
US-08-852-181-1
US-08-852-481-1
US-08-852-153-5
US-08-852-153-5
US-08-852-153-3
US-08-852-153-3
US-08-852-153-3
US-08-190-560-3
US-08-190-560-3
US-08-469-277-3
US-08-468-946-3
US-08-468-946-3
US-08-468-946-3
US-08-468-946-3
US-08-656-055-1
US-08-656-055-1
US-08-656-055-1
US-08-656-053-1
US-08-092-77-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            230463 segs, 64992525 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Listing first 45 summaries
                                                                                                                                    using sw model
                                                                                                                                                                                                                                                                                                                                                                                                IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Issued_Patents_NA:*
                                                                                                                                                                                                                                                                                 US-09-186-342-8
669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB seq length: 0
DB seq length: 1000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9421
246240
246240
246240
303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  548
248
1018
10058
10058
10058
2262
2262
310058
32855
3327
579
579
579
                                                                                                                                    nucleic search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                Scoring table:
```

Length 548;

0000

```
FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BENT, Stephen A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: APPLICATION NUMBER:
                1..405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                   ; FEATURE:
; FEATURE:
; NAME/KEY:
; LOCATION:
PCT-US95-07289-6
                LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      505
                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                óγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 CCAGGGACCAAAATGAACGATGAAAGCAGAAACTCTTCTCTGACTTGGGGAGTTCCTAC 240
                                                                                                                                                                                                                                                            gtnaarttyytnaargarathconggnggngcnytngtnytngtngcnwsntaygaygay 444
                                                                                                                                                                                                                                                                                                                                                                                  121 GTGAAATTCCTTAAAGAAATTCCGGGGGGGGGCACTGGTGCTGGTGGTGGTCCTTACGACGAT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                325 acnggngcngtnytnggncaraargcnttygayatgtaywsnggngaygtnatgcayytn 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCnggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntay 504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gcnaarcarytnggnttymgngaywsntgggtnttyathggngcnaargayytnmgnggn 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14 11:11:1 | 1 | 11:1 | 1 | 11:1 | 11:1 | 11:1 | 11 | 11:1 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 
                                                                                                  265 atgwsnccngtnaaraayaaygtnggnmgnggnytnaayathgcnytngtnaayggnacn 324
                                                                                                                                   Gaps
                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 6, Application PC/TUS9507289
GENERAL INFORMATION:
APPLICANT: YU, GUO-Liang
APPLICANT: Rosen, Craig
TITLE OF INVENTION: Colon Specific Genes and Proteins
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                congarytnytngaratggarggntgyatgconconaarcontty 669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: Carella, Byrne, Bain, Gilfillan, Cecchi,
ADDRESSE: Stewart & Olstein
STREET: 6 Becker Farm Road
CITY: Roseland
COUNTRY: NJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/07289
FLING DATE: 06-JUN-1995
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: FERTRACO, Gregory D.
REGISTRATION NUMBER: 36,134
REFERENCE/DOCKET NUMBER: 35,234
TELEPHONE: 201-994-1700
   59.3%; Pred. No. 2.4e-80;
cive 93; Mismatches 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 548 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
Best Local Similarity 59.39
Matches 240; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 201-994-1744
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 548 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 07068-1739
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 2
PCT-US95-07289-6
                                                                                                                                                                                                                                                                                                                                                    385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       505
                                                                                                  ô
                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                       ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
```

```
ö
                                                                                                                                                                                                                                                                                                                                 504
                                                                                                                                                                                                                                                                                   624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            325 acnggngcngtnytnggncaraargcnttygayatgtaywsnggngaygtnatgcayytn 384
                                                                                                                                                                                                                                                                  385 gtnaarttyytnaargarathccnggnggngcnytngtnytngtngcnwsntaygaygay 444
                                                                                                                                                                                                                                                                                                                                                                                             gcnaarcaryinggnttymgngaywsniggginttyaihggngcnaargayyinmgnggn 564
                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                             445 ccnggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntay
                                                                                                                                                                                                                                                                                                                                                 ;
                                                                              Length 548;
                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: DORNER, F.
APPLICANT: SCHETFLINGER, F.
APPLICANT: SCHETFLINGER, F.
TITLE OF INFURION: RECOMBINANT FOWLPOX VIRUS
UNDERSONDENCE S2
CORRESPONDENCE FOLGY & Lardner
STREET: 1800 Diagonal Road, Suite 500
CITY: Alexandria
                                                                         44.0%; Score 294.6; DB 6;
59.3%; Pred. No. 2.4e-80;
11ve 93; Mismatches 72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/232,463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EP 91 114 300.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/935,313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 22313-0299
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-232-463-14/c
; Sequence 14, Application US/08232463
; Patent No. 5670367
                                                                                          Best_Local Similarity 59.3%
Matches 240; Conservative
mat_peptide
```

us-09-186-342-8.rni

ö

```
Matches
                                                                                                                                                                                                셤
                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                        δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . <del>Q</del>
                                                                                                          ð
                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            : ::: : ::|:: ::|:: :: ::|:: ::|:: ::|:: ::|:: ::|:: ::|:: ::|:: ::|:: ::|:: ::|:: ::|:: ::|:::|:::|:::|:::|::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541 athggngcnaargayytnmgnggnaarwsnccnttygarcarttyytnaaraaywsnccn 600
                                                                                                                                                                                                                                                                                                                                                                                                           301 aayathgcnytngtnaayggnacnacnggngcngtnytnggncaraargcnttygayatg 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gayacnaayaartaygarggntggccngarytnytngaratggarggntgyatgccnccn 660
                                                                                                                                                                                                                                                                                                                                           241 atgtgyttygargaymgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnytn 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         taywsnggngaygtnatgcayytngtnaarttyytnaargarathccnggnggngcnytn 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gtnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtntty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 8, Application US/09092770; Sequence 8, Application US/09092770; Patent No. 5973119; GENERAL INFORMATION:
APPLICANT: Coats, Steven R.
APPLICANT: Robinson, Murray O.; TITLE OF INVENTION: No. 5973119el Cyclin E Genes and Proteins; FILE REFERENCE: A-524 CURRENT APPLICATION NUMBER: US/09/092,770; CURRENT FILING DATE: 1997-06-05; UNWBER OF SEQ ID NOS: 18
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 8
LENTH: 1215
                                                                                                                                                                                                                                                                             Query Match 7.3%; Score 48.6; DB 1; Length 7218; Best Local Similarity 9.9%; Pred. No. 0.00025; Matches 42; Conservative 169; Mismatches 214; Indels 0
REGISTRATION NUMBER: 29,768
                                                                                    TELEX: 899149
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 7218 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                          REFERENCE/DOCKET NUMBER: 36
TELECOMMUNICATION INFORMATION
TELEPAN: (703)836-9300
TELEFAX: (703)683-4109
                                                                                                                                                                                  TOPOLOGY: linear IMMEDIATE SOURCE: CLONE: PTZgpt-Fls
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1045 CAGCC 1041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       : TYPE: DNA
; ORGANISM: Human
US-09-092-770-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661 aarcc 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-092-770-8/c
                                                                                                                                                                                                                               US-08-232-463-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                          1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                              å
```

```
94 aaracnathmgnytnccnmgntggytngcnwsnccnacnaargarathcargtnaaraar 153
                                                                                                                                                        634 ANGCRAAYTCYTGNARYTTNGGNGCRTADATYTCYTCNARYTTNSWNGCDATRAANARNS 575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          454 CYTCNARNARCCARTCNARNARDAINSWNCKCATYTGNGGYTCNARRTCNSWRTGNARNA 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                454 aaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntaygcnaarcar 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 154 AYTGRIGYTYYTINGINACYTCYTCNCKNCKYTTYTINACRICYTGNGINGIYTINCKYT 95
                                                                                                                                                                                                                                 154 tayaartgyggnytnathaarccntgyccngcnaaytayttygcnttyaarathtgywsn
                                                                                                                                                                                                                                                                                        574 WNGTDATNCCDATNARYTGNARCATRTTYTTRTTDATRTCYTTYTGNGTNARCATRAANC
                                                                                                                                                                                                                                                                                                                                               ggngcngcnaaygtngtnggnccnacnatgtgyttygargaymgnatgathatgwsnccn
                                                                                                                                                                                                                                                                                                                                                                                                514 KRTCRAARAARTCYTGNGCNARRTARAANGTYTCNCKRTGNARNGTRTANACYTCRCANA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      274 gtnaaraayaaygtnggnmgnggnytnaayathgcnytngtnaayggnacnacnggngcn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       334 gtnytnggncaraargcnttygayatgtaywsnggngaygtnatgcayytngtnaartty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            394 ytnaargarathccnggnggngcnytngtnytngtngcnwsntaygaygayccnggnacn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   274 ANCKRIARITINGTRAANCKNSWRAARTCNSWNGTNCCDATYTCYTTRIGNGGNGTYTCDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                514 ytnggnttymgngaywsntgggtnttyathggngcnaargayytnmgnggnaarwsnccn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 574 ttygarcarttyytnaaraaywsnccngayacnaayaartaygarggntggccngarytn
   Length 1215;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Donohue, Timothy J
APPLICANT: Barber, Robert D
APPLICANT: Mitthuhn, Vernon
TITLE OF INVENTION: MICROBIAL SYSTEM FOR FORMALDEHYDE
TITLE OF INVENTION: SENSING AND REMEDIATION
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
5.9%; Score 39.4; DB 4; 9.0%; Pred. No. 0.033;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  634 ytngaratggarggntgyatgccnccnaarccntty 669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94 TYTINGCYIGDAIDAIYIGNGCYICYIGNGGNSWYT 59
                                                      52; Conservative 169; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/608,241 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Quarles & Brady
STREET: 1 South Pinckney Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 3, Application US/08608241 Patent No. 5747328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Madison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ns
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-608-241-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE:
   Query Match
                                 Best Local
```

```
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PUI8017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IMMEDIATE SOURCE
                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                     FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
LOCATION:
US-08-922-182-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          us-08-919-953-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            211 GGCCATGATGCAACCTTCCGCCCGCTCCAGCGCTGATGCTCGACGTTCATCGGCT 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              271 CTTCTGCGATGCGCTGTGATGACGCTCAAGGCGGTGGCGGGACTGACCACATCGAATC 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               162 yggnytnathaarccntgyccngcnaaytayttygcnttyaarathtgywsnggngcngc 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           222 naaygtngtnggnccnacnatgtgyttygargaymgnatgathatgwsnccngtnaaraa 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       282 yaaygtnggnmgnggnytnaayathgcnytngtnaayggnacnacnggngcngtnytngg 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   102 hmgnytnccnmgntggytngcnwsnccnacnaargarathcargtnaaraartayaartg 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                331 CGCCGACCGGCTCGAGACCGCTCTGGCCCGGCTCGACCTGCAGCCGGCGTTCGATGTGGT 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  342 ncaraargcnttygayatgtaywsnggngaygtnatgcayytngtnaarttyytnaarga 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         391 GGTGCTGGATCTGAACCTGCCGGACGTGAACGGCCTCGACGGCCTCATCCGTCTGAAGGC 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.4%; Score 35.8; DB 2; Length 1058; 27.3%; Pred. No. 0.36; tive 47; Mismatches 201; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Borobue, Timothy J
APPLICANT: Barbert D
APPLICANT: Barbert D
APPLICANT: Withhin, Vernon
TITLE OF INVENTION: STOREM AND REMEDIATION
TITLE OF INVENTION: SENSING AND REMEDIATION
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSE: Quarles & Brady
STREET: 1 South Pinckney Street
CITY: Madison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                402 rathccnggnggngcnytngtngtngcnwsntaygayg 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             451 GAGCCCGGGGCGGTGCTGTGTGTGTGTGTCCTTCCCTCG 491
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Seay, Nicholas J
REGISTRATION NUMBER: 960296.93511
TELECOMMUNICATION INFORMATION:
TELEPHONE: 608-251-5000
TELEPHONE: 608-251-9166
INFORMATION FOR SED ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 1058 base pairs
                                                                                                                                                                                                                                                         TOPOLGGY: linear
TOPOLGGY: linear
MOLECULE TYPE: DNA (genomic)
ORIGINAL SOURCE:
ORGANISM: Rhodobacter sphaeroides
STRAIN: 2.4.1
IMMEDIATE SOURCE:
CLONE: PUI8017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 3, Application US/08922182 Patent No. 5834300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best_Local Similarity 27.39
Matches 93; Conservative
                                                                                                                                                                                                                         TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: CDS
LOCATION: 221..895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                53703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Mad
STATE: WI
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 6
US-08-922-182-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-608-241-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
391 GGTGCTGGATCTGAACCTGCGGACGTGAACGGCCTCGACGGCCTCATCCGTCTGAAGGC 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          102 hmgnytnccnmgntggytngcnwsnccnacnaargarathcargtnaaraartayaartg 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 162 yggnytnathaarccntgyccngcnaaytayttygcnttyaarathtgywsnggngcngc 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            211 CGCCATGATGCAACCTTCCCGCCCGCTCCAGTCCGCGCTGATCGTCGACGATCATCCGCT 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       222 naaygtngtnggnccnacnatgtgyttygargaymgnatgathatgwsnccngtnaaraa 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   271 CTTCTGCGATGCGCTGTCGATGACGCTCAAGGCGGTGGCGGGACTGACCCCACATCGAATC 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   331 CGCCGACCGGCTCGAGACCGCTCTGGCCCGGCTCGAGCTGCAGCCGGCGTTCGATGTGGT 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            342 ncaraargcnttygayatgtaywsnggngaygtnatgcayytngtnaarttyytnaarga 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        282 yaaygtnggnmgnggnytnaayathgcnytngtnaayggnacnacnggngcngtnytngg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1058;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/922,182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  402 rathconggngongonytngtnytngtngonwsntaygayg 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       451 GAGCCCCGGGGCGGTGCCGGTGGTGGTCTTCCCTCG 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 5.4%; Score 35.8; DB 3; Best Local Similarity 27.3%; Pred. No. 0.36; Matches 93; Conservative 47; Mismatches 201;
                                                                                                                                                                                                                                                                                                                           ATTORNEY AGENT INFORMATION:
NAME: Seay, Nicholas J
RAGISTRATION NUMBER: 27,386
REFERENCE/DOCKET NUMBER: 960296.93511
TELECOMMUNICATION INFORMATION:
TELEPHONE: 608-251-5000
TELEPHONE: 608-251-5000
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 1058 base pairs
TYPE: nucleic acid
STRANDENNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rhodobacter sphaeroides
                                                                                                                                                                                                           CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/608,241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 3, Application US/08919953
Patent No. 5837481
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Donohue, Timothy J
Barber, Robert D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
APPLICANT:
```

ö

```
541 athggngcnaargayytnmgnggnaarwsnccnttygarcarttyytnaaraaywsnccn 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 5.3%; Score 35.4; DB 4; Length 2262; Best Local Similarity 41.3%; Pred. No. 0.94; Matches 43; Conservative 17; Mismatches 44; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1, Application PC/TUS9105766
GENERAL INFORMATION:
APPLICANT: Rosenblum, Michael
APPLICANT: Rohr, William Jack
APPLICANT: Applicant: Bharat
TITLE OF INVENTION: Protein Structure of the Plant Toxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601 gayacnaayaartaygarggntggccngarytnytngaratgga
                                                                                                                           Sequence 5, Application US/08674887A

Patent No. 5939300

GENERAL INFORMATION:
APPLICANT: Robertson, Dan E.
APPLICANT: Adhikari, Robert S.
TITLE OF INVENTION:
UNMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
STREET: 4225 Executive Square, Suite 1400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: TBM COMPALIBLE
COMPUTER: TBM COMPALIBLE
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 09015/002001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/08/674,887A FILING DATE: 03-JUL-1996 PRIOR APPLICATION DATA: APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTOREY AGENT INFORMATION:
NAME: Haile, Ph.D., Lisa A.
REGISTRATION UNDRER: 38,347
REFERENCE/DOCKET NUMBER: 0901
TELECOMMUNICATION INFORMATION:
TELEFAX: 619/678-5070
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: Coding Sequence;
LOCATION: 1...2259
US-08-674-887A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 2262 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                           STREET: 4222
                                                                                                                                                                                                                                                                                                                                                                                                                                          ΩS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US91-05766-1/c
                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: U
                                                                                                             US-08-674-887A-5
                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 222 naaygingingnccnacnaigtgyttygargaymgnatgathaigwsnccnginaaraa 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       102 hmgnytnccnmgntggytngcnwsnccnacnaargarathcargtnaaraartayaartg 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    151 CCTTTGGCCGGGTTATCGCGTCAGGCGGATGTGCTAGCCTCGTGAAAAGACGTATGGGAC 210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  162 yggnytnathaarccntgyccngcnaaytayttygcnttyaarathtgywsnggngcngc 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         271 CTTCTGCGATGCGCTGTCGATGACGCTCAAGGCGGTGGCGGGACTGACCCCACATCGAATC 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       282 yaaygtnggnmgnggnytnaayathgcnytngtnaayggnacnacnggngcngtnytngg 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  331 CGCCGACCGGCTCGAGACCGCTCTGGCCCGGCTCGACCTGCAGCCGGCGTTCGATGTGGT 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               342 ncaraargcnttygayatgtaywsnggngaygtnatgcayytngtnaarttyytnaarga 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            391 GGTGCTGGATCTGAACCTGCCGGACGTGAACGCCCTCGACGCCCTCATCCGTCTGAAGGC 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5.4%; Score 35.8; DB 3; Length 1058; 27.3%; Pred. No. 0.36; tive 47; Mismatches 201; Indels 0
                     TITLE OF INVENTION: MICROBIAL SYSTEM FOR FORMALDEHYDE TITLE OF INVENTION: SENSING AND REMEDIATION UNMER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                         MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/919,953
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rathccnggnggngcnytngtnytngtngcnwsntaygayg 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960296.93511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   : Rhodobacter sphaeroides 2.4.1
                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/608,241
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Seay, Nicholas J
REGISTRATION NUMBER: 27,386
REGISTRATION NUMBER: 27,386
                                                                                                             ADDRESSEE: Quarles & Brady
STREET: 1 South Pinckney Street
CITY: Madison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS: LENGTH: 1058 base pairs TYPE: nucleic acid STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: 96
TELECOMMUNICATION INFORMATION:
TELEPHONE: 608-251-5000
TELEFAX: 608-251-9166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
ORIGINAL SOURCE:
APPLICANT: Witthuhn, Vernon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 27.39
Matches 93; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     221..895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IMMEDIATE SOURCE:
CLONE: pUI8017
                                                                                                                                                                                                          ns
                                                                                                                                                                                                        COUNTRY: US
ZIP: 53703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; NAME/KEY:
; LOCATION:
US-08-919-953-3
                                                                                                                                                               CITY: Mad:
STATE: WI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
```

; 0

g

Ω οqα

õ 셤 à g ŏ d ŏ

```
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NDAER: US 60/017,178
APLICATION NUMBER: US 60/017,178
FILING DATE: 09-MAY-1996
ATTORNEY/AGENT INFORMATION:
NAME: GOLdaman, MICHAGE 1.
REGISTRATION NUMBER: 30,727
REFERENCE/DOCKET NUMBER: 19603/771
TELECHONE: (716) 263-1304
TELECHONE: (716) 263-1600
INFORMATION FOR SEQ ID NO: 1:
                             540 yathggngcnaargayytnmgnggnaarws 569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  442 gayccnggnacnaaratgaaygaygar 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302 CGATCAGGAACGACAATGACTCAAGAA 328
                                                                       31 CYTTNGTNSWRAANSWNACNGTRTCNARNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/08/852,481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PC-DOS/MS-DOS
                                                                                                                                                                                              ; Sequence 1, Application US/08852481
; Patent No. 5928931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Sequence 1, Application US/08868786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 1564 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION DATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1: New York
14603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rochester
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: 11
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                 RESULT 10
US-08-852-481-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-868-786-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-852-481-1
                                ò
                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180 yccngcnaaytayttygcnttyaarathtgywsnggngcngcnaaygtngtnggnccnac 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300 naayathgcnytngtnaayggnacnacnggngcngtnytnggncaraargcnttygayat 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360 gtaywsnggngaygtnatgcayytngtnaarttyytnaargarathccnggnggngcnyt 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420 ngtnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaaryt 479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480 nttywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtntt 539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              391 CNCKRTANGCYTTYTCNCCYTCNARNSWNGGRTANSWNCCNCCRAARTGNARNCKNGTYT 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240 natgtgyttygargaymgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnyt 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           331 INCCNCCRAANARNARNGGRITYTIDAINGTRITYTIRAANARNCCYICRIANGCNGCRI 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      271 CNGGNGCRTCYTTRAARAARTANSWNCKRTTNCKNACYTGRTANCCNACNACRTANACNS 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  211 WNGTNACRICDAINGCDAIYICNGCNARYIGNCCRIIRICRIINSWNARNGCNACNARNA 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  151 CRAARCAYTINCCNGGRICRICNCCYTINSWNARNARNGGDAINCCRIGNSWRITNCCYT 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CNGGYTTNARYTTNACNCKNARYTCRTTNARRAARTTNACRTANGTDATRTANGTNGCNC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 5.3%; Score 35.2; DB 6; Length 774; Best Local Similarity 16.2%; Pred. No. 0.42; Matches 63; Conservative 75; Mismatches 252; Indels
                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPTOTER: IBM PC compatible
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US91/05766
FILING DATE: 19910814
                                                                     ADDRESSEE: Fulbright & Jaworski Patent Department
STREET: 1301 McKinney #5100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Launer, Charlene A.
REGISTRATION NUMBER: 33,035
REFERENCE/DOCKET NUMBER: D-5195 PCT
TELECOMNUNICATION INFORMATION:
TELEPHONE: (713)651-5246
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 774 base pairs
LENGTH: 774 base pairs
TYPE: NUCLEIC ACID
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/567,220
FILING DATE: 14-AUG-1990
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Gelonium multiforum
DEVELOPMENTAL STAGE: Seed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: unknown
MOLECULE TYPE: DNA (genomic)
HYPOTHETICAL: YES
ORIGINAL SOURCE:
TITLE OF INVENTION: Gelonin
                      NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; LOCATION: 1..774
PCT-US91-05766-1
                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                    CITY: Houston
STATE: Texas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: CDS
                                                                                                                                                                   COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
```

```
322 acnacnggngcngtnytnggncaraargcnttygayatgtaywsnggngaygtnatgcay 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            182 ACAACCTACGTGAAACTGGGGCCTAAAGGCTACATGGTGTACAGACCCTACTTGAAAGAT 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       382 ytngtnaarttyytnaargarathccnggnggngcnytngtnytngtngcnwsntaygay 441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              242 GCGGCGAATATCTACAACATGCCTCTAAGACCTACAGACGTGTTCGTTGCTAGCAGTTATCAA 301
GENERAL INFORMATION:

APPLICANT: Grun Ph.D., Felix
APPLICANT: Buck Ph.D., Jochen
APPLICANT: Hammerling Ph.D., Ulrich
TITLE OF INVENTION: ISOLATION, PUBLIFICATION AND CLONING OF
TITLE OF SEQUENCES: 2
CORRESPONENCE ADDRESS:
ADDRESSEE: MIXON, HATGRAVE, DEVANS & DOYLE-LLP
STREET: Clinton Square, P.O. Box 1051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 5.3%; Score 35.2; DB 4; Best Local Similarity 36.1%; Pred. No. 0.78; Matches 53; Conservative 19; Mismatches 75;
```

ö

us-09-186-342-8.rni

```
US-08-852-153-1/c

Jeacher L. Application US/08852153

Sequence 1, Application US/08852153

Patent No. 5914766

GENERAL INFORMATION:
APPLICANT: Randazzo, Filippo
TITLE OF INFORMITON: Mammalian Sex Comb on Midleg Acts as a Tumor Suppressor NUMBER OF SEQUENCES: 8

CORRESPONDENCE ADDRESS:
ADDRESSEE: Chiron Corporation
STREET: 4560 Horton Street
CITY: Emeryville
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1247 GAGGGTATGCTGTTCCCGGTCAACACGGCTGAGATAACCTCACCACCATGGCCTTGCTT 1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   136 garathcargtnaaraartayaartgyggnytnathaarccntgyccngcnaaytaytty 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   196 gcnttyaarathtgywsnggngcngcnaaygtngtnggnccnacnatgtgyttygargay 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        316 aayggnacnacnggngcngtnytnggncaraargcnttygayatgtaywsnggngaygtn 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 5.2%; Score 35; DB 4; Length 2855; Best Local Similarity 31.4%; Pred. No. 1.5; Matches 77; Conservative 30; Mismatches 138; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/852,153
FILING DATE:
FLING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Guth, Joseph H.
REGISTRATION NUMBER: 1224.006
TELECOMMUNICATION INFORMATION:
TELEPHONE: (510) 923-388
TELEPHONE: (510) 923-388
TELEPHONE: (510) 655-354.2
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2855 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
2160 TAAATATCTTCGGCATCGTTTAT 2182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-852-153-5/c ; Sequence 5, Application US/08852153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                       U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1127 CTGCA 1123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      376 atgca 380
                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: U ZIP: 94608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Kawchuk, Lawrence M.
APPLICANT: Armstrong, John
APPLICANT: Lynch, Dermot
APPLICANT: Lynch, Dermot
APPLICANT: Knowles, Richard
APPLICANT: Fortatoes Having Improved Quality
TITLE OF INVENTION: Characteristics and Methods for Their Production
NUMBER OF SEQUENCES: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          422 tnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytnt 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 5.3%; Score 35.2; DB 4; Length 3101; Best Local Similarity 34.3%; Pred. No. 1.4; Matches 49; Conservative 22; Mismatches 72; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/868,786
FILING DATE: 04-JUN-1997
CLASSIFICATION NUMBER: US/08/868,786
FILING DATE: 04-JUN-1997
CLASSIFICATION NUMBER: US 60/036,946
FILING APPLICATION DATA:
APPLICATION NUMBER: US 60/036,946
FILING DATE: 10-FEB-1997
ATTORNEY/AGENT INFORMATION:
NAME: SUllivan, Sally A
REGISTRATION NUMBER: 8-97
TELEPOMUNICATION INFORMATION:
TELEPHONE: (303) 499-8080
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
TELEFARE 2103 A 299-8089
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCATION: 44..2944
OTHER INFORMATION: /product= "potato alpha-glucan OTHER INFORMATION: L-type tuber phosphorylase"
                                                                                                                                                                                                                                 E: Greenlee, Winner and Sullivan, P.C. 5730 Manhattan Circle, Suite 201
                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       482 tywsngayytnggnwsnwsntay 504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Solanum tuberosum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 3101 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mat_peptide
194..2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                           CORRESPONDENCE ADDRESS: ADDRESSEE: Greenlee,
                                                                                                                                                                                                                                                                             CITY: Boulder
STATE: Colorado
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGINAL SOURCE
                                                                                                                                                                                                                                                                                                                                                      80803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; LOCATION:
US-08-868-786-1
                                                                                                                                                                                                                                                            STREET:
```

ô

g δλ 셤 œ

```
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        us-08-190-560-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                        APPLICANT: Randazzo, Filippo
TITLE OF INVENTION: Mammalian Sex Comb on Midleg Acts as a Tumor Suppressor
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSEE: Chiron Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FREER, INFORMATION:
APPLICANT: Randazzo, Filippo
APPLICANT: Randazzo, Filippo
TITLE OF INVENTION: Mammalian Sex Comb on Midleg Acts as a Tumor Suppressor
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSEE: Chiron Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1647 GAGGGTATGCTGTTCCCGGTCAAACACGGCTGAGATAACCTCACCACCATGGCCTTGCTT 1588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1767 GAGTGACAAGTGAGTCTGTGTAAAGGGCTGGTTGCCAAACAGATTGTCACTACGAAGGTT 1708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1587 GAGGAAGCTGAAGACGGTTTTCTGGTGATAAGCACAGTCGATACAGGCCTGGACAGCCTG 1528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        256 mgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnytnaayathgcnytngtn 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            136 garathcarginaaraartayaartgyggnyinathaarccnigyccngcnaaytaytty 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196 genttyaarathtgywsnggngengenaaygtngtnggneenaenatgtgyttygargay 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  316 aayggnacnacnggngcngtnytnggncaraargcnttygayatgtaywsnggngaygtn 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 5.2%; Score 35; DB 4; Length 3255; Best Local Similarity 31.4%; Pred. No. 1.7; Matches 77; Conservative 30; Mismatches 138; Indels
                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/852,153
                                                                                                                            STREET: Chiron Corporation
STREET: 4560 Horton Street
CITY: Emeryville
STATE: California
COUNTRY: U.S.A.
ZIP: 94608
COMPUTER READABLE FORM:
MEDIUM TYBE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Guth, JOSeph H.
REGISTRATION NUMBER: 31,261
REFERENCE/POCKET NUMBER: 1224
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 3, Application US/08852153
Patent No. 5914266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (510) 923-3888
TELEFAX: (510) 655-3542
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 3255 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
Patent No. 5914266
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1527 CTGCA 1523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           376 atgca 380
                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 14
US-08-852-153-3/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-852-153-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ç
```

```
1839 GAGTGACAAGTGAGTCTGTGAAAGGGCTGGTTGCCAAACAGATTGTCACTACGAAGGTT 1780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1719 GAGGGTATGCTGTTCCCGGTCAAACACGGCTGAGATAACCTCACCACGATGGCCTTGCTT 1660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1659 GAGGAAGCIGAAGACGGITTTCTGGTGATAAGCACAGTCGATACAGGCCTGGACAGCCTG 1600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     196 gcnttyaarathtgywsnggngcngcnaaygtngtnggnccnacnatgtgyttygargay 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     256 mgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnytnaayathgcnytngtn 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         136 garathcargtnaaraartayaartgyggnytnathaarccntgyccngcnaaytaytty 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 316 aayggnacnacnggngcngtnytnggncaraargcnttygayatgtaywsnggngaygtn 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 4; Length 3327;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 5.2%; Score 35; DB 4; Length 332 Best Local Similarity 31.4%; Pred. No. 1.7; Matches 77; Conservative 30; Mismatches 138; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Zain, Sayeeda
APPLICANT: Zain, Sayeeda
APPLICANT: Lukanidin, Engene
TITLE OF INVENTION: DIACHOSIS OF METASTATIC CANCER BY
TITLE OF INVENTION: THE MTS-1 GENE
COMMER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                               SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/852,153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: SCULLY, SCOTT, MURPHY & PRESSER STREET: 400 Garden City Plaza CITY: Garden City STATE: New York STATE: United States ZUNTR: United States ZIP: 11530
                                                                                                                                                                                                                                                                                                                           FILING DATE:
CLASSIFICATION: 435
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Guth, Joseph H.
REGISTRATION NUMBER: 31,261
REFRENCE/CDOCKET NUMBER: 1224
TELECOMMUNICATION INFORMATION:
TELEPAX: (510) 655-3542
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 33.7 Dase pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/08190560; Patent No. 5798257; GENERAL INFORMATION:
                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
4560 Horton Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
US-08-852-153-3
                          Emeryville
California
                                                                                                                                                                                              COMPUTER: IBM PC OPERATING SYSTEM:
                                                                                 U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1599 CTGCA 1595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                376 atgca 380
                                                                                                         94608
```

ô

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             410 gnggngcnytngtnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarw 469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            530 sntgggtnttyathggngcnaargayytnmgnggnaarwsnccnttygarcarttyytna 589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      239 AGGAGCTGCTGACCCGGGAGCTGCCCAGCTTCTTGGGGAAAAGGACAGATGAAGCTGCTT 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 5.1%; Score 34.4; DB 2; Length 579; Best Local Similarity 27.8%; Pred. No. 0.57; Matches 72; Conservative 40; Mismatches 147; Indels
COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM FO Compatible
COMPUTER: IBM COMPA:-
COMPUTER: IBM COMPA:-
SOFTWARE: Patentin Release #1.0, Version #1.25
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
FILIGO DATA:
APPLICATION NUMBER: US/08/190,560
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Didigilo, Frank S.
REGISTRATION NUMBER: 31,346
REFERENCE/DOCKET NUMBER: 7879ZY
TELEPHONE: (516) 742-4343
TELEPHONE: (516) 742-4366
TELEX: 230 901 SANS UR
TELEPHONE: (516) 742-4366
TELEX: 230 901 SANS UR
TELEPHONE: (516) 742-4366
TELEX: 210 901 SANS UR
TELEPHONE: (516) 742-4366
TELENTH: 579 base pairs
TYRANDEDENESS: double
STRANDEDENESS: double
STRANDEDENESS: double
STRANDEDENESS: double
STRANDEDENESS: DONA
US-08-190-560-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            590 araaywsnccngayacnaa 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  419 ATAAGCAGCCCAGGAAGAA 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
```

Search completed: May 31, 2000, 19:14:25 Job time: 6263 sec

		·	
			•

```
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
```

OM nucleic - nucleic search, using sw model

May 31, 2000, 19:03:54 ; Search time 78.65 Seconds (without alignments) 2128.144 Million cell updates/sec Run on:

US-09-186-342-8 669 1 atgmgngtnwsnggngtnyt......gyatgccnccnaarccntty 669 Title: Perfect score: Sequence:

Scoring table:

IDENTITY_NUC Gapop 10.0 , Gapext 1.0

623170 Total number of hits satisfying chosen parameters:

311585 seqs, 125096042 residues

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 1000000

Post-processing: Minimum Match 0% Listing first 45 summaries

N_Geneseq_36:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description		Consensus sednence	Full length sequen	Human colon specif	Polynucleotide seq	ш	1735382			Clone 2128334 EST	DNA fragment contg	Staphylococcus aur	Human secreted pro	Xylanase xynB gene	Human interleukin-	Human SOX-9 cDNA.	Staphylococcus aur	Continuation (10 o	R. sphaeroides Adh	Rhodobacter sphaer	Interferon-beta ge	Staphylococcus aur	Brevibacterium fla	Alcaligenes (Deley	Solanum tuberosum	Staphylococcus aur	DNA encoding a Sta	DNA encoding a Sta	Human sex comb on	Staphylococcus aur					
SUMMERTES	ID		걾	V63515	T45883	V16671	V63509	V63511	V63510	V63508	V63512	N70938	V74910	V69614	T08144	V31480	T30309	V74589	V21209_09	V62126	V64113	N20057	V74828	T29734	V06554	V32918	V77877	T83899	V53367	V00011	T97297	T97299	V00013	T97298	8	V74502
	DB	į	Н		-	~	-	Н	٦	7	П	Н		Н	Н	Н	-	Н				Н	Н	Н	-	Н	Н	-4	Н	٦	Н	П	Н	ij	П	Н
	Length		1299	955	548	548	263	251	228	287	187	3830	704	1341	1633	687	3934	8536	110000	1058	1058	1836	4544	1836	2262	3101	420	1442	1442	2855	2855	3255	3255	3327	3327	14078
dф	Query Match		72.6	99	44.0	44.0	28.9	27.1		•	0.9						5.5	5.4	5.4	5.4				•	5.3		•		•	•	•	•	•	5.5	5.2	5.5
	Score	1	•	447			193.6	181.4	161.8	59.2		39	37.8	37	36.8	36.6	36.6	36.4	36.4	35.8	35.8	35.6	35.6	35.4	35.4	35.2	35	35	35	35	35	35	35	35	35	35
	Result No.		1	7	e	4	S	9	7	80	6	10	11	c 12	13	14		c 16	c 17	18	19	c 20	21	22	23	24	25	56	27	7	a	m	m	c 35	c 33	•

Human gene signatu EST clone J635. Ne	Human nuclear prot Nucleotide sequenc	Enterococcus faeca	ribolium castaneu	Tribolium casteneu	ACC oxidase GEFE-1	Borrelia burgdorfe	Chrysanthemum flav
T20500 V86185	V38564 V68588	X12987	V21586	V64098	T66248	X20271	T94661
		Н.		-	-		Н
488 600	2090 2090	2866	736	736	1291	5100	1660
5.2	5.2	5.2	2.1	5.1	5.1	5.1	5.1
34.8 34.8	34.8 34.8	34.6	34.4	34.4	34.4	34.4	34.2
35 36	37 38	33	41	42	43	44	45
		(ပ	Ç			ပ

ALIGNMENTS

RESULT V63516	LT 1 16
a z	V63516 standard; cDNA; 1299 BP.
۲ ۲	VOSDILO; 28-TBN-1800 /first ontrv
DE	Consensus sequence of CS141 ESTsence.
KW	
ΚW	gastric ulcer; gastritis; leiomyoma; polyps; Crohn's disease;
KW	ulcerative colitis; pantreatitis; ss.
SO	Synthetic.
S	sapiens.
H	
FT	ر د
1 6	יירטטייין / רמק= מ
Z, C	000844135 A1.
<u> </u>	21 MAR 106337
<u>.</u>	31 - MAK-11998) (003357)
A G	31-MAK-1947; US-828489.
ra La	(ADDV.) ADDVII LED. Pilling-Madel Di Cober M Colnitte W. Driedman DN
PI	Gordon J. Granados EN. Havden M. Hodges SC. Klass MR.
Id	Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD:
DR	WPI; 98-568280/48.
DR	P-PSDB; W80475.
PT	New gastrointestinal tract specific polynucleotides, CS141 - used to
PŢ	develop products for the diagnosis and treatment of e.g. cancers,
PT	gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
ΡŢ	pancreatitis
PS	Claim 1; Page 93; 116pp; English.
ပ္ပ	The present sequence is a consensus sequence of a set of contiguous
ည	and partially overlapping EST sequences designated CS141. The sequences
႘	are isolated from a cDNA library made from gastrointestinal tract
ပ္ပ	tumour and normal tissues. The CS141 gene is useful as a marker for
ပ္ပ	gastrointestinal tract disorders. The methods and products can be
ပ္ပ	used in detecting, diagnosing, staging, monitoring, prognosticating,
ပ္ပ	preventing, or determining the predisposition to diseases and
ပ္ပ	conditions of the gastrointestinal tract, such as gastrointestinal
၁ ၂	tract cancers, Barret's esophagus, gastric ulcer, gastritis,
ပ္ပ	leiomyoma, polyps, Crohn's disease, ulcerative colitis, pantreatitis.
Ö	Sequence 1299 BP; 303 A; 353 C; 383 G; 259 T;
ā	
¥ B	Similarity 59.6%; 9; Conservative 15
ċ	at concent and a section of the sect
ζ	a cginging cinasingging cin criment cing cing cina cina cina cina cina cina cina cina
qa	286 ATGAGAGTGTCAGGTGTGCTTCGCCTCCTGGCCCTCATCTTTGCCATAGTCACGACATGG 345
NO O	61 atattvathmanwsntavatawsnttvwsnataaaracnathmanytnccnmantagvtn 120
ï	
qa	346 AIGITTATTCGAAGCTACATGAGCTTCAGCATGAAAACCATCCGTCTGĆCACGCTGGCTG 405
οy	121 gcnwsnccnacnaargarathcargtnaaraartayaartgyggnytnathaarccntgy 180
ć	
a a	GCCICGCCCACCAAGGAGTCCAGGTTAAAAGTACAAGTGGGCCTCATCAAGCCTTGC

197 T;

273 Ģ;

240 C;

Ä

241

BP;

955

Sequence

g

~

ô

```
28-JAN'1999 (first entry)
Full length sequence of clone 1281865 corresponding to CS141 sequence.
EST sequence; CS141; gastrointestinal tract; cancer; Barret's esophagus; gastric ulcer; gastritis; lelomyoma; polyps; Crohn's disease; ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                              585
                                                                                                                                                                                                                                                                                                                                                                                        gtnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytn 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          945
                                                                                                                      atgtgyttygargaymgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnytn 300
                                                                                                                                                                                                                                                                                                                                                                  taywsnggngaygtnatgcayytngtnaarttyytnaargarathccnggnggngcnytn 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        athggngcnaargayytnmgnggnaarwsnccnttygarcarttyytnaaraaywsnccn 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1: Page 92; 116pp; English.
V63504-15 represent a set of contiguous and partially overlapping E: sequences designated CS141. The sequences are isolated from a CDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting, diagnosing, staging, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastritis, leiomyoma, polyps, Crohn's disease, ulcerative colitis, pantreatitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              congenaaytayttygenttyaarathtgywsnggngengenaaygtngtnggneenaen
                                                                                                                                                     aayathgcnytngtnaayggnacnacnggngcngtnytnggncaraargcnttygayatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCTCTGACTTGGGGAGTTCCTACGCAAACAACTGGGCTTCCGGGACAGCTGGGTCTTC
                                     AACATCGCCCTGGTGAATGGAACCACGGGAGCTGTGCTGGGGACAGAAGGCATTTGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ttywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtntty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        - nsed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (ABBO ) ABBOTT LAB.

Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD; WPI; 98-568280/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard; cDNA; 955 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08-OCT-1998.
31-MAR-1998; U06337.
31-MAR-1997; US-828489.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aarccntty 669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            946 AAGCCATTT 954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
Homo sapiens.
WO9844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            pancreatitis
Claim 1; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        V63515
V63515;
                                                       466
                                                                                                                                                                                                                                                                                                                                                                                                                       949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 199
181
                                                                                                                   241
                                                                                                                                                                          526
                                                                                                                                                                                                                                                                                                 586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
V6 31 15
V6 35 15
V6 35 15
V6 35 15
V6 35 15
V7 40
V7
                                                    엄
                                                                                                                                                                                                                                                                                                                                                                                                          요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                   ç
                                                                                                                                                                 a
                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                         ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
```

```
240
                                                               239
                                                                                                          299
                                                                                                                                                                                               419
                                                                                                                                                                                                               360
                                                                                                                                                                                                                               479
                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                539
                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                599
                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                               629
                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                               900
                 Gaps
                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human colon specific genes and their expression products - detection
                               yccngcnaaytayttygcnttyaarathtgywsnggngcngcnaaygtngtnggnccnac
                                                                                                                                 natgtgyttygargaymgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnyt
                                                                                                                                        naayathgcnytngtnaayggnacnacnggngcngtnytnggncaraargcnttygayat
                                                                                                                                                                        ngtnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaaryt
                                                                                                                                                                                                                                         nttywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtntt
                                                                                                                                                                                                                                                                         600 ngayacnaayaartaygarggntggccngarytnytngaratggarggntgyatgccncc
                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                             Human colon specific gene CSG4 cDNA partial clone.
Colon specific gene; CSG4; colon cancer; metastasis; diagnosis;
Length
447; DB 1; Le
No. 5.8e-119;
Smatches 103;
                Conservative 141; Mismatches
Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                       BP.
66.8%;
60.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                      T45883 standard; cDNA; 548
                                                                                                                                                                                                                                                                                                                                                                                                                              T45883;
13-MAR-1997 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-DEC-1996.
06-JUN-1995; U07289.
06-JUN-1995; WO-U07289.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (HUMA-) HUMAN GENOME
                                                                                                                                                                                                                                                                                                                                                                               601 GAAGCCATTT 610
        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rosen CA, Yu G;
WPI; 97-043054/04.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene therapy; ss.
Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                               660 naarccntty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-PSDB; W06547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9639419-A1.
                366;
Query Match
Best Local S.
Matches 366
                                                                                                                                                                                                                               420
                                09
                                                                                                180
                                                                                                                                 240
                                                                                                                                                               300
                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
T45883
                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                             g
                                                                ò
                                                                               g
                                                                                               å
                                                                                                              g
                                                                                                                               οy
                                                                                                                                            a
                                                                                                                                                          Óγ
                                                                                                                                                                                              à
                                                                                                                                                                                                           g
                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                οğ
                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                             셤
```

က

```
V16668-81 represent polynucleotide sequences of partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-OCT-1998.
31-MAR-1998; U06337.
31-MAR-1997; US-828489.
                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (ABBO ) ABBOTT LAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
WO9844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pancreatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             V63509
                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2
                                                                                                                                                                                                                                                                                              385
                                                                                                                                                                                                                                                                                                                                                 445
                                                                                                                                                                                                                                                                                                                                                                                                   505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
         8888888888
                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                       ö
of which, in non-colon tissue samples, can be used as indication of colon cancer metastasis

Slaim 1: Fig 4: 60pp; English.

13 cDNA clones (74580-92), most of them partial clones, correspond to human colon specific genes, designated CSG1, CSG2, etc., that care primarily expressed in tissues derived from the colon. CSG7 and CSG10 show reduced expression in colon cancer cells as compared to that in normal cells; the remaining genes are overexpressed in colon cancer. The partial cDNA sequences can be used to isolate full-length clones and genomic clones including the complete gene. CSG nucleic acids can be used to produce CSG polypeptides (see also W06545-53) in transformed host cells, as probes to detect disorders of the colon, partic. colon cancer and colon cancer metastasis, and
                                                                                                                                                                                                                                                                                                                                                                                                 504
                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265 atgwsnccngtnaaraayaaygtnggnmgnggnytnaayathgcnytngtnaayggnacn 324
                                                                                                                                                                                                                                                                                                                                                                                    gtnaarttyytnaargarathccnggnggngcnytngtngtngtngcnwsntaygaygay 444
                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                 acnggngcngtnytnggncaraargcnttygayatgtaywsnggngaygtnatgcayytn 384
                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P\text{-}PSDB;\ W46878. Colon-specific nucleic acids - useful as probes for detecting colon
                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 CCAGGGACCAAAATGAACGATGAAAGCAGGAAACTCTTCTCTGACTTGGGCAGTTCCTAC
                                                                                                                                                                                                                                                                                                    1 ATGAGTCCTGTGAAAAACAATGTGGGCAGAGGCCTAAACATCGCCCTGGTGAATGGAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                     conggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aarwsnccnttygarcarttyytnaaraaywsnccngayacnaayaartaygarggntgg
                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                             DB 1; Length 548;
                                                                                                                                                                                      107 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-JUN-1998 (first entry)
Polynucleotide sequence of a colon-specific gene.
Colon-specific gene; probe; detection; expression; human; diagnostic assay; colon cancer; antibody; screening; ss.
                                                                                                                                                                                                                         44.0%; Score 294.6; DB 1; Length 59.3%; Pred. No. 2.8e-75; Indels iive 93; Mismatches 72; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        625 ccngarytnytngaratggarggntgyatgccnccnaarccntty
                                                                                                                                                                                      172 G;
                                                                                                                                                                                     129 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cancer micrometastases
Claim 15; Fig 4; 51pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  V16671 standard; cDNA; 548 BP
                                                                                                                                                                                    137 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-MAR-1998.
06-JUN -1995; 469667.
06-JUN -1995; US-469667.
(HUMA-) HUMAN GENOME SCI INC.
                                                                                                                                                                                                                                       Local Similarity 55.50 les 240; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .406
                                                                                                                                                                                    548 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rosen C, Yu G;
WPI; 98-229823/20.
                                                                                                                                                                         in gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JS5733748-A
                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                               325
                                                                                                                                                                                                                                                                                                                                                                                 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
V16671
     ð
                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DAC DATE OF THE PROPERTY OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
```

```
ö
                                                 e.g. in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Clone 1281865 EST corresponding to CS141 sequence.
EST sequence; CS141; gastrointestinal tract; cancer; Barret's esophagus; gastric ulcer; gastritis; lelomyoma; polyps; Crohn's disease; ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST
                                                                                                                                                                                                                                                                                                                 Gaps
             cDNA clones of colon specific genes. The polynucleotides can be used as probes to detect expression of the corresponding human genes, e.g. diagnostic assays for detecting micrometastases of colon cancer. Recombinant cells containing the polynucleotides can be used to produce the polypeptides, in order that antibodies can be raised and used in further screening or diagnostics. 173 G; 107 T;
                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1, Pages 90-91; 116pp; English.
V63504-15 represent a set of contiguous and partially overlapping Exsequences designated CS141. The sequences are isolated from a cDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting,
                                                                                                                                                                                                                                                                                                                                                             265 atgwsnccngtnaaraayaaygtnggnmgnggnytnaayathgcnytngtnaayggnacn
                                                                                                                                                                                                                                                                                                                                                                                                              1 ATGAGTCCTGTGAAAAAAAATGTGGGCAGAGGCCTAAAACATCGCCCTGGTGAATGGAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       genaarcarytnggnttymgngaywsntgggtnttyathggngenaargayytnmgnggn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    565 aarwsnccnttygarcarttyytnaaraaywsnccngayacnaayaartaygarggntgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         conggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gtnaarttyytnaargarathccnggnggngcnytngtnytngtngcnwsntaygaygay
                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                            Length 548;
or
                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR,
Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD;
WPI; 98-568280/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      congarytnytngaratggarggntgyatgconconaarcontty
                                                                                                                                                                                                                                                       Score 294.6; DB 1;
Pred. No. 2.8e-75;
3; Mismatches 72;
                                                                                                                                                                                                                                                    44.0%; Sco
59.3%; Pre
tive 93;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             V63509 standard; cDNA; 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                        240; Conservative
```

ö

Gaps

;

Indels

43;

Mismatches

63;

```
Conservative
  Matches 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             334
                             409
                                                       C
                                                                                                                                    529
                                                                                                                                                                                          589
                                                                                 469
                                                                                                                                                                                                                                                                                                                               V63510
                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δλ
                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                             ð
                                                    a
                                                                                                         g
                                                                                                                                                               a
                                                                                                                                                                                          à
                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                        QC
                                                                                 à
                                                                                                                                    à
                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-07N-1999 (first entry)
Clone 1795382 EST corresponding to CS141 sequence.
CST expense: CS141; gastrointestinal tract; cancer; Barret's esophagus; gastric ulcer; gastritis, lachomyoma; polyps; Crohn's disease; ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                        299
                                                                                                                                                                                                                                                                                                                                            181 TATGTGCTTTGAAGACCGCATGATCATCAGAGTCCTGTGAAAAACAATGTGGGCACAGGCCT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pancreatitis
Claim 1; Page 91; 116pp; English.
V63504-15 represent a set of contiguous and partially overlapping EST
sequences designated CS141. The sequences are isolated from a cDNA
library made from gastrointestinal tract tumour and normal tissues.
The CS141 gene is useful as a marker for gastrointestinal tract
disorders. The methods and products can be used in detecting,
                                                                                                                                                                                                                   120 ngcnwsnccnacnaargarathcargtnaaraartayaartgyggnytnathaarccntg 179
                                                                                                                                                                                                                                   gatgttyathmgnwsntayatgwsnttywsnatgaaracnathmgnytnccnmgntggyt 119
                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            t
t
                                                                                                                                                                                New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                               240 natgtgyttygargaymgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnyt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          diagnosing, staging, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastritis, leiomyoma, polyps, Crohn's disease, ulcerative colitis, pantrettis, man
diagnosing, staging, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastriis, lelomyoma, polyps, crohn's disease, ulcerative colitis, pantreatitis. Sequence 263 BP;
                                                                                                                                      ó
                                                                                                            DB 1; Length 263;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kratochvil JD, Roberts-Rapp L, Russeíl JC, Stroupe SD;
WPI; 98-568280/48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Klass MR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR Kratochvil JD, Roberts-Rapp L, Russell TC, Strown S
                                                                                                                                       43;
                                                                                                           28.9%; Score 193.6; DB 1
61.2%; Pred. No. 1.8e-46;
iive 59; Mismatches 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62 C;
                                                                                                                                                                                                                                                                                                                                                                                                   241 AAACATCGCCCTGGTGAATGGAA 263
                                                                                                                                                                                                                                                                                                                                                                                  300 naayathgcnytngtnaayggna 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              V63511 standard; cDNA; 251
                                                                                                            Ouery Match 28.9°
Best Local Similarity 61.2°
Matches 161; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-OCT-1998.
31-MAR-1998; U06337.
31-MAR-1997; US-828489.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (ABBO ) ABBOTT LAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
WO9844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8888888
                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                            ð
```

```
esophagus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              volument, represent a set of contiguous and partially overlapping EST sequences designated CS141. The sequences are isolated from a CDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting, diagnosing, stading, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastriits, lelomyoma, polyps, Crohn's disease, ulcerative colitis, pantreatiis, lelomyoma, polyps, Sequence 228 BP; 63 A; 48 C; 68 G; 49 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ggnggngcnytngtnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygar 468
                                                                                                                                                                                                                                                                                                                                                528
                                                                                                                                                                                                                                                                                                                                                                                                                                            :: :| ||::| ||::| ||::| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           wsntgggtnttyathggngcnaargayytnmgnggnaarwsnccnttygarcarttyytn 588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aaraaywsnccngayacnaayaartaygarggntggccngarytnytngaratggarggn 648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ||:||::: || ||:|| ||:|| ||:||:||:||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gtnytnggncaraargcnttygayatgtaywsnggngaygtnatgcayytngtnaartty 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              122 AGCTGGGTCTTCATAGGAGCCAAAGACCTCAGGGGTAAAAGCCCCTTTGAGCAGTTCTTA 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                    nseq
                                                                                                                                                                                                                                                                                                                                                                   wsnmgnaarytnttywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Barret's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Clone 1807758 EST corresponding to CS141 sequence.
EST sequence, CS141; gastrointestinal tract; cancer; Barret's gastric ulcer; gastritis; leiomyoma; polyps; Crohn's disease; ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 228;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratochvil JD, Roberts-Rapp L, Russell JC, Stroupe SD; WPI; 98-568280/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24.2%; Score 161.8; DB 1;
58.1%; Pred. No. 2.4e-37;
ive 51; Mismatches 44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Page 91; 116pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     V63510 standard; cDNA; 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
24.2%
Best Local Similarity 58.1%
Matches 132; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-JAN-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08-OCT-1998.
31-MAR-1998; U06337.
31-MAR-1997; US-828489.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               649 tgyatgccnc 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (ABBO ) ABBOTT LAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         242 TGCATGCCCC 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            W09844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        pancreatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
```

ö

Length 251;

Score 181.4; DB 1; Pred. No. 5.8e-43;

27.18; 57.68;

Query Match Best Local Similarity S

```
Streptomyces griseus.
         31-MAR-1998; U06337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    04-JUN-1987.
20-NOV-1986; J00596.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO8703302-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N70938
         å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AC NAME OF THE PROPERTY OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Clone 2128334 EST corresponding to CS141 sequence.
EST sequence; CS141; gastrointestinal tract; cancer; Barret's esophagus; gastric ulcer; gastritis; leiomyoma; polyps; Crohn's disease; ulcerative colitis; pantreatitis; ss.
                                                                                                                                                                                                                                                                                                                                                        Barret's esophagus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pancratuli, page 90; 116pp; English.
V63504-15 represent a set of contiguous and partially overlapping EST sequences dealigated CS141. The sequences are isolated from a cDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting, diagnosing, staging, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastritis, leiomyoma, polyps, Crohn's disease, ulcerative colitis, pantreatitis, leiomyoma, polyps, Sequence 287 BP; 54 A; 85 C; 87 G; 58 T;
                          394 ytnaargarathccnggnggngcnytngtnytngtngcnwsntaygaygayccnggnacn 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          - used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-0CT-1998.
31-MAR-1998; U06337.
31-MAR-1999; U06337.
31-MAR-1997; US-828489.
(ABBO ) ABBOTT LAB.
Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratochivil JD, Roberts-Rapp L, Russell JC, Stroupe SD; WPI: 98-56280/48.
New gastrointestinal tract specific polynucleotides, CS141 - used develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 atgmgngtnwsnggngtnytnmgnytnytngcnytnathttygcnathgtnacnacntgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                28-JAN-1999 (first entry)
Clone 3210629 EST corresponding to CS141 sequence.
EST sequence; CS141; gastrointestinal tract; cancer; gastric ulcer; gastritis; leiomyoma; polyps; Crohn's disease; ulcerative colitis; pantreatitis; ss.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 287;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18; Indels
                                                                                            aaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnws 500
                                                                                                                  8.8%; Score 59.2; DB 1; 57.0%; Pred. No. 9.6e-08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ||||||:||:|| :: ||:|||: || ATGTTTATTCGAAGCTACATGAGCTT 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 atgttyathmgnwsntayatgwsntt 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               V63512 standard; cDNA; 187 BP. V63512;
                                                                                                                                                                                                                                                      V63508 standard; cDNA; 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           49; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
WO9844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
WO9844133-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pancreatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local
Matches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      σ
                                                                                                                                                                                                          RESULT
V63508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          V63512
                                       g
                                                                                          ò
                                                                                                                                   셤
                                                                                                                                                                                                                                                                              ID DE DE COS OS OS OS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
```

```
Claim 1; Pages 91-92; 116pp; English.
V63504-15 represent a set of contiguous and partially overlapping EST sequences designated CS141. The sequences are isolated from a cDNA library made from gastrointestinal tract tumour and normal tissues. The CS141 gene is useful as a marker for gastrointestinal tract disorders. The methods and products can be used in detecting, disponsing, stading, monitoring, prognosticating, preventing, or determining the predisposition to diseases and conditions of the gastrointestinal tract, such as gastrointestinal tract cancers, Barret's esophagus, gastric ulcer, gastrointestinal tract cancers, crohn's disease, ulcerative colitis, pantreatitis, leiomyoma, polyps, crohn's disease, ulcerative colitis, pantreatitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     195 ygcnttyaarathtgywsnggngcngcnaaygtngtnggnccnacnatgtgyttygarga 254
                                                                                                                                                                                                      З
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         255 ymgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnytnaayathgcnytngt 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ಹ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17 CGCCACCAAAATGCGCGGAGCCACCGAGATCGCCGTGCGGTATTTCGAAGGCGGAGAGGA 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10-APR-1991 (first entry)
DNA fragment contg. streptomycin resistance gene and its regulatory sequence from Streptomyces griseus 4-1 strain (FERM BP-1198).
Antibiotic-resistance; selection marker; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              as
                                                                                                                                                                          develop products for the diagnosis and treatment of e.g. cancers, gastric ulcer, gastritis, Crohn's disease, ulcerative colitis or parcreatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Fig 3; 41pp; Japanese.
Disclosure; Fig 3; 41pp; Japanese.
The DNA fragment can be inserted into an actinomycetes plasmid vector (e.g. plJ720) to give a hybrid plasmid which may be used streptomycin resistance selection marker.
Secuence 3830 BP; 576 A; 1367 C; 1348 G; 538 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA contg. streptomycin resistance gene and regulatory sequence useful as resistance selection marker, isolated from plasmid pST141 Streptomyces lividans 4-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6.0%; Score 40.4; DB 1; Length 187; 67.3%; Pred. No. 0.018;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.8%; Score 39; DB 1; Length 3830; 27.0%; Pred. No. 0.46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        618 rggntggccngarytngaratggarggntgyatgccnccnaarccntty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             192; Indels
                    (ABBO ) ABBOTT LAB.
Billing-Medel PA, Cohen M, Colpitts TL, Friedman PN, Gordon J, Granados EN, Hayden M, Hodges SC, Klass MR, Kratcchvil JD, Roberts-Rapp L, Russell JC, Stroupe SD; WPI; 98-568280,48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Pred. No. 0.46; 49; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-NOV-1985; JP-258622.
(ZAID) ZH BISEIBUTSU KAGAKU KEN.
(WHEZ/) UMEZAWA H.
UMEZAWA H. IKAMI Y.
WPI; 87-163322/23.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N70938 standard; DNA; 3830 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1043. .1966
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best_Local Similarity 67.3
Matches 35; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best_Local Similarity 27.0 Matches 89; Conservative
31-MAR-1997; US-828489.
```

ö

ö

ဖ

```
Matches
                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                  g
                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                ď
                                        ò
                                                                        셤
                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 9-14/821/35.

WPI; 9-14/821/35.

Polynucleotide(s) and proteins derived from Staphylococcus aureus - stored on computer readable medium and used in the production of anti-S.aureus vaccines

Claim 1: Page 1531-1532; 3271pp; English.

This sequence represents one of 5191 Staphylococcus aureus DNA sequences of the invention. The DNA sequences are recorded on a computer readable medium, preferably selected from a floppy or hard disk, random access memory (RAM), read-only memory (ROM) or CD-ROM. Homology searches using that protein-encoding or regulatory regions of commercial, therapeutic or industrial importance can be obtained. Specifically, sequences which are industrial importance can be obtained. Specifically, sequences which are polypeptides can also be used in a vaccine composition against S.aureus infection. The polypeptides can also be used in a kit for the immunodetection of S.aureus in a sample. S.aureus is implicated in numerous human diseases, including cellulitis, eyelld infections, food poisoning, osteomyellitis, sydnome, etc. Organisms transformed with the DNA sequences can be used for recombinant production of the polypeptides. The new DNA sequences can the computer readable medium of the S.aureus DNA sequences contained on the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the sequence listing in the specification. They are included to maintain the nucleotide numbering given in the specification for this DNA sequence."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
361. 420
/*tag= a
/note= "these bases represent a line of missing text in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Computer readable medium; vaccine; S.aureus infection; immunodetection; cellulitis; eyelid infection; food poisoning; osteomyelitis; therapy; skin infection; surgical wound infection; scalded skin syndrome; toxic shock syndrome; ds.
  AGAGGCGTTCATCTTCGCGGTGAAGTCCAACGTCACCGCACGGACTGCCGCTCTCCCTCGA 136
                                                                                                                                                          197 CATCGGCCTGGCGACCCGGACGCGAAGACGGTGGGGGACCCTCAGGGTCCTGTTCGA 256
                                                                                CGACCGCAAGGCCGGCGACCCGTGTCCTGGAGACCCATCCGTCCTGGTCCGACCGGGC 196
                                                                                                                                                                                                                                                  naayggnacnacnggngcngtnytnggncaraargcnttygayatgtaywsnggngaygt 374
                                                                                                                                natgcayytngtnaarttyytnaargarathccnggnggngcnytngtnytngtngcnws 434
                                                                                                                                                                                                            ntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytngg 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      213 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (HUMA-) HUMAN GENOME SCI INC.
Barash SC, Choi GH, Dillon PJ, Fannon MR, Kunsch CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Staphylococcus aureus contig SEQ ID #599.
                                                                                                                                                                                                                                                                                          524
                                                                                                                                                                                                                                                                                                                              317 CCCCACCGAGGGGGGGGAAGCTGGCGAGCCG 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98 C;
                                                                                                                                                                                                                                                                                          495 nwsnwsntaygcnaarcarytnggnttymg
                                                                                                                                                                                                                                                                                                                                                                                                                            V74910 standard; DNA; 704 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        232 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-MAR-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      readable medium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Staphylococcus aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-JUL-1997.
07-JAN-1997; 100117.
05-JAN-1996; US-009861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97-374922/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EP-786519-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      computer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                V74910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rosen
                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
                    77
                                                        315
                                                                                                                                  375
                                                                                                                                                                                                              435
                                                                                                                                                                                                                                                                                                                                                                                                          V74910
                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                              g
                                                                                                                                                                      Э
                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                          õ
                                                                                                                                  ò
```

Length 704;

Score 37.8; DB 1; Pred. No. 0.28;

5.7%;

Query Match Best Local Similarity

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New isolated human genes and secreted polypeptide(s) they encode useful for the diagnosis and treatment of e.g. cancers, CNS disorders, immune system disorders, inflammatory disease and bacterial infections and isolaters, inflammatory disease and bacterial infections English.

This sequence represents a nucleic acid molecule designated Gene 4 from the human cDNA clone HEBND56 (deposited as clone ATCC 97955 and ATCC 209074) which encodes a secreted human protein. This gene maps to chromosome 4 and is abundantly expressed in parathyroid tumour. It is useful for diagnosis and treatment of disorders of the nearvous system and the protein products are useful in modulating calcium metabolism. The invention relates to 20 novel genes and their fragments (V69611 to V69630) and corresponding secreted proteins (W83931 to W83950) which are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human secreted protein gene 4 clone HEBND56.
Secreted protein, gene therapy; protein therapy; diagnosis; treatment; secreted protein; gene therapy; protein therapy; diagnosis; treatment; central nervous system; CNS; immune system; cancer; trauma; liver; reproductive disorder; congenital malformation; degenerative disease; inflammatory disease; neoplasia; metabolic disorder; testis; placenta; brain; real; spleen; lung; heart; rhabdomyosarcoma; endocrine system; endocrine polyglandular syndrome; endocrinema; 
                                                                                                                                                                                                                                                                                               arathcargtnaaraartayaartgyggnytnathaarccntgyccngcnaaytayttyg 196
                                                                                                                                                                                                                                                                                                                                                                                                                     cnttyaarathtgywsnggngcngcnaaygtngtnggnccnacnatgtgyttygargaym 256
                                                                                                                  ayatgwsnttywsnatgaaracnathmgnytnccnmgntggytngcnwsnccnacnaarg 136
                                                                                                                                                                                                                                 414 NNNNNNTATTAGTATTAGGGTTATGGTATTTTATATTGCTAGCAAGACTTCCACCAATT 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             534 AATAATAACATIGTAAATGAGCTGTTGACACGGGGAATAGTAAAAAATCGATAATA 593
   Gaps
                                                       tnytnmgnytnytngcnytnathttygcnathgtnacnacntggatgttyathmgnwsnt 76
                                                                                                                                                                                                                                                                                                                                    |: : |: || || || || || || || || AATCCAAGCCCAACAAAAAAACTGTTGTTGTAAAAAATTTTCAG
ö
   Indels
Mismatches 161;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "secreted protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gnatgathatgwsnccngtnaaraayaaygt 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  594 GCATTAATAGATAAACGGAGATAAATCATCT 624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P, Ni J, Rosen CA, Ruben SM, Yu G; 98-594496/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
   32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        V69614/c
ID V69614 standard; DNA; 1341 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (HUMA-) HUMAN GENOME SCI INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product=530. .604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag= b
605..742
/*tag= c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             530. .745
/*tag= a
      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-042754.
US-042825.
US-048068.
US-048070.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-048184.
US-042726.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-042727.
US-042728.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              U06801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P-PSDB; W83934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-APR-1997;
08-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08-APR-1997;
08-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-MAY-1997;
30-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   V69614;
28-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      W09845712-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mat_peptide
   78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Feng P,
                                                                                                                                                                             77
                                                                                                                                                                                                                                                                                                                                                                                                                     197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           257
                                                          17
                                                                                                                                                                                                                                                                                                      137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
```

```
useful for preventing, treating or ameliorating medical conditions e.g.

by protein of gene therapy. Also pathological conditions can be diagnosed
by protein of gene therapy. Also pathological conditions can be diagnosed
by determining the amount of the new polypeptides in a sample or by
determining the presence of mutations in the polynucleotides. Specific
uses are based on which tissues they are most highly expressed in, and
include developing products for the diagnosis or treatment of central
nervous system (CNS) and immune system diseases, reproductive disorders,
cancers, congenital malformations, degenerative diseases, trauma,
inflammatory disease, neoplasia, metabolic disorders, diseases in testes,
placenta, liver, brain and activated T cells, spleen diseases, lung
diseases, heart diseases, rhabdomyosarcoma and disorders of the endocrine
system or other endocrinopathies, e.g. endocrine polyglandular syndrome,
endocrinoma, and endocrine ophthalmopathy, osteoclastoma and other bone
cremodelling disorders, bacterial infections and sepsis. The polypeptides
are also useful for identifying their binding partners.
Sequence 1341 BP; 376 A; 278 C; 313 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       production processes
Example 8; Page 47-49; 77pp; English.
A xynB gene partial sequence (T08144) codes for a thermostable F-type xynB gene partial in the pulp and paper industries. The xynB gene, which codes for a multi-domain enzyme that includes a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    521 tymgngaywsntgggtnttyathggngcnaargayytnmgnggnaarwsnccnttygarc 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               282 yaaygtnggnmgnggnytnaayathgcnytngtnaayggnacnacnggngcngtnytngg 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              553 CAACGTAGGAAGAGACAGAACATTCTTCTTCTTCCACTTATTACCTGCCACTGTGTT--- 496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            496 TTAAAAGGTATATGGTATTAAGAAAAGTTGGCTGTTGCGTTTTTTTAATTTTTAAATT 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          402 rathccnggnggngcnytngtnytngtngcnwsntaygaygayccnggnacnaaratgaa 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps

    obtained

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           376 TGTGGTATCATATTAGGGATCCCATCAATGATTGGATAGGTATTCCCAACTCTTCATTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         436 ATGAACTAGCGCTGCTCCACTTCTTGCTTCTTACTTTGACGTGTCATCCTAGCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      462 ygaygarwsnmgnaarytntt-ywsngayytnggnwsnwsntaygcnaarcarytnggnt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 342 ncaraargcnttygayatgtaywsnggngaygtnatgcayytngtnaarttyytnaarga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Xylanase xyng various (partial sequence).
Xylanase xyng gene; thermostable enzyme; paper; pulp; lignin; delignification; xylan; bleaching; ds.
Extremophile isolate TG456 (CBS 213.94).
21-DEC-1995.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel xylanase(s) having activity at 80 deg.C. or higher – obta
from anaerobic thermophilic bacteria and used in paper and pulp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gronberg
                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 5.5%; Score 37; DB 1; Length 1341; Best Local Similarity 28.3%; Pred. No. 0.77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S, Gronbe
Morgan HW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60; Mismatches 167; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Forster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Moody D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Farrel RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Jones BE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               581 arttyytnaaraaywsnccnga 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              256 AACTCCAGCAGCGCCGGATCGA 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T08144 standard; DNA; 1633 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-DEC-1995.
14-JUN-1995; EC2299.
14-JUN-1994; EP-201699.
(KONN ) GIST-BROCADES BV.
Bergquist Pt. Daniel RM,
Herweijer MA, Iverson S, J
Quax WJ, Williams DP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12-MAY-1996 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 96-049690/05.
P-PSDB; R87014.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οý
         88888888888888888888
```

```
This DNA encodes a human interleavish: 12 (IL-12) p40 subunit. This is used in the construction of plasmid for expressing recombinant eukaryotic genes. The plasmid comprises a first transcription unit comprising control sequences linked, in order, to a 5'-untranslated region (UTR), synthetic intron, a coding sequence and synthetic 3'-untranslated region (CTR), synthetic intron, a coding sequence and synthetic 3'-untranslated region (CTR), synthetic intron, a coding sequence and synthetic 3'-untranslated region (CTR), synthetic intron, The first coding sequence and second coding sequence construction. The first coding sequence and second coding sequence comprise a sequence coding for p40 subunit of human IL-12 and a sequence coding for p35 subunit of human IL-12. The plasmids are used for therapeutic gene delivery, especially for treating asthma and cancer. They are also useful as adjuvants for vaccines. IL-12 is known to stimulate natural killer cells, to promote maturation of cytotoxic T cells and to induce cytokine production by these cells. They stimulate cells and to induce exposines in cases of microbial or viral infection, some cancers, allergies and asthma. Co-ordinated expression of two subunits from a single plasmid is now possible, avoiding the difficulties associated with transfection with two separate plasmids.
                                                                                                                                                                                                                                                                                                                                                                                                                    ó
single xylanase B domain, was obtd. by genomic walking PCR of DNA from extreme thermophilic strain TG456 (CBS 213.94), isolated from a New Zealand hot spring. The gene can be inserted into a vector and used for the prodn. of recombinant xylanase B in microbial host cells, esp. Escherichia coli.

Sequence 1633 BP; 564 A; 291 C; 347 G; 431 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  409 GCACAGAGCAATAATATTGGAATAAGAGGTCATACACTGGTTTGGCATCAACAAACTCCA 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   509 arcarytnggnttymgngaywsntgggtnttyathggngcnaargayytnmgnggnaarw 568
                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Plasmids for co-ordinated expression of recombinant eukaryotic genes-useful for, e.g. therapeutic gene delivery, especially for treating asthma and cancer Disclosure; Fig 4A-D; 104pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product= "human IL-12 p40 subunit"
/note= "the protein is encoded by degenerate codons
which can code for each of the amino acid"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     449 gnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntaygcna
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    469 GATTGGTTTTTCCAGCATTCTGACGGTTCGCCACTTGATCCAAACAATTCTGAAGACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     569 snccnttygarcarttyytnaaraaywsnccngayacnaayaartaygarggntggccng
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human interleukin-12 (IL-12) p40 subunit encoding DNA.
Interleukin-12; IL-12; p40 subunit; p35 subunit; human; asthma;
cancer; therapeutic gene delivery; vaccine; allergy; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                         ;;
0
                                                                                                                                                                                                                                                                                                                               Length 1633;
                                                                                                                                                                                                                                                                                                                                                                                                                    41; Mismatches 106; Indels
                                                                                                                                                                                                                                                                                                                                   5.5%; Score 36.8; 27.9%; Pred. No. 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Deshpande D, Freimark B, Nordstrom J;
WPI; 98-261507/23.
P-PSDB; W57482.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               589 AAAGTTTATGCATGGGATGTTGTA 612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              629 arytnytngaratggarggntgya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       V31480 standard; DNA; 987 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ď
                                                                                                                                                                                                                                                                                                                                        Query Match 5.54
Best Local Similarity 27.94
Matches 57; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENE-) GENEMEDICINE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10-OCT-1997; U18832.
18-OCT-1996; US-028687.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HIDDAY SETT THE PROPERTY OF THE FETT THE PROPERTY OF THE PROPE
            2222228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
```

œ

```
염
                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                         ö
                                                                                                                                         congenaaytayttygenttyaarathtgywsnggngengenaaygtngtnggneenaen 240
                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                  421 gtnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytn 480
                                                                                                                          atgttyathmgnwsntayatgwsnttywsnatgaaracnathmgnytnccnmgntggytn 120
                                                                                                                                                                       gcnwsnccnacnaargarathcargtnaaraartayaartgyggnytnathaarccntgy 180
                                                                                                                                                                                                                                                                241 atgtgyttygargaymgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnytn 300
                                                                                                                                                                                                                                                                                                                                 563 ARTAYWSNGTNGARTGYCARGARGAYWSNGCNTGYCCNGCNGCNGARGARWSNYTNCCNA 622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541 athggngcnaargayytnmgnggnaarwsnccnttygarcarttyytnaaraaywsnccn 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            263 AYACNTGYCAYAARGGNGGNGARGTNYTNWSNCAYWSNYTNYTNYTNYTNCAYAARAARG 322
                                                           Gaps
                                                                             1 atgmgngtnwsnggngtnytnmgnytnytngcnytnathttygcnathgtnacnacntgg 60
                                                                                                                                                                                                                                                                                                             aayathgcnytngtnaayggnacnacnggngcngtnytnggncaraargcnttygayatg
                                                                                                                                                                                                                                                                                                                                                                                                                  383 TYYTHMGNTGYGARGCHAARAAYTAYWSNGGHMGNTTYACHTGYTGGTGGYTHACHAA
                                                                                                                                                                                                                                        443 THWSNACNGAYYTNACNTTYWSNGTNAARWSNWSNMGNGGNWSNWSNGAYCCNCARGGNG
                                                                                                                                                                                                                                                                                    503 TNACNTGYGGNGCNGCNACNYTNWSNGCNGARMGNGTNMGNGGNGAYAAYAARGARTAYG
                                                                                                                                                                                                                                                                                                                                                         taywsnggngaygtnatgcayytngtnaarttyytnaargarathccnggnggngcnytn
                                                                                                                                                                                                                                                                                                                                                                             623 THGARGTNATGGTNGAYGCNGTNCAYAARYTNAARTAYGARAAYTAYACNWSNWSNTTYT
                                                                                                                                                                                                                                                                                                                                                                                                                                               481 ttywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtntty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    743 AYWSNMGNCARGINGARGINWSNIGGGARIAYCCNGAYACNIGGWSNACNCCNCAYWSNI
                                                         ;
0
                                  Length 987;
  Ë
                                                         Indels
  125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sox-9; bone regeneration; cartilage regeneration; campomelic dysplasia; gene therapy; sex reversal; Homo sapiens.
                                 Query Match 5.5%; Score 36.6; DB 1; Best Local Similarity 10.0%; Pred. No. 0.79; Matches 60; Conservative 154; Mismatches 387;
  ö
 165
 ີ່
 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T30309 standard; cDNA; 3934 BP
  Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360. .1889
/*tag= a
3896. .3901
/*tag= b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AU0799.
AU-009714.
AU-009835.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QUEENSLAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAMBRIDGE
 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human SOX-9 cDNA.
 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (UYCA-) UNIV C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W09617057-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-NOV-1995;
29-NOV-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      polya_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20-AUG-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-JUN-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            863 G 863
 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 T30309;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12
                                                                                                                            61
                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Key
တ္တ
                                                                                                    셤
                                                                                                                                                                                          g
                                                                                                                                                                                                                                     g
                                                                             õ
                                                                                                                          å
                                                                                                                                             q
                                                                                                                                                                      à
                                                                                                                                                                                                                   å
                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
```

```
ö
                                                                                                                                                                                         Claim 2; Fig 8a; 64pp; English.

A composite CDNA sequence (T30309) codes for the human transcription factor, SOX-9 (R97646). It was deduced from cDNA clones obtd. from a testis CDNA inhibrary using a SOXA HMG (high mobility gp.) probe. The gene appears to play a role in skeletal development. It has been mapped to chromosome 17 within a region which contains CMPD!, the locus for camponelic dysplasia (CD). Alterations in SOX-9 can cause both CD and male to female sex reversal. The cDNA can be used in the prepn. of recombinant SOX-9 polypeptide. DNA or recombinant protein may be injected into joint tissue for treatment of cartilage or bone damage. SOX-9 can also be used as a tool for studying bone formation and sex determination. Sequence 3934 BP; 966 A; 1100 C; 901 G; 967 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2780 CACTAAAAGAGTGTGTGTGTGTGCGACGCACCGTTTAAAGGCTCAAGGTGTTTTTCTC 2721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2840 TIGCIIGCCITITACCICITICTIAAGACIGCAGIGAACAAGCAAAGGCAGGAGGAAAIG 2781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  424 ytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytntty 483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                          for the promotion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              484 wsngayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtnttyath
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              544 ggngcnaargayytnmgnggnaarwsnccnttygarcarttyytnaaraaywsnccngay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                     New isolated SOX-9 genes - used to develop prods. for the pro
or suppression of bone or cartilage differentiation or growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 5.5%; Score 36.6; DB 1; Length 3934; Best Local Similarity 27.4%; Pred. No. 2.3; Matches 61; Conservative 43; Mismatches 119; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2660 TCCCATAATTGCAAATAAGGCCTTTATTTTTTTAAGGCAG 2618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          604 acnaayaartaygarggntggccngarytnytngaratggarg
Koopman PA;
                                                                                                                 New isolated SOX-9 genes
Goodfellow PN, Koo
WPI; 96-27777/28.
                                                                           P-PSDB; R97646
```

Search completed: May 31, 2000, 19:04:01 Job time: 5944 sec

Run on:

```
May 31, 2000, 18:37:16 ; Search time 1292.59 Seconds (without alignments) -503.483 Million cell updates/sec
                                                                                                                              US-09-186-342-8 669 1 atgmgngtnwsnggngtnyt.....gyatgccnccnaarccntty 669
                                                                                                                                                                                                                                                     1765538
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                           882769 seqs, -486395729 residues
                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Listing first 45 summaries
                                                    OM nucleic - nucleic search, using sw model
                                                                                                                                                                                   IDENTITY_NUC Gapox 1.0
                                                                                                                                                                                                                                                                                                                                                    GenEmbl:*

1: 9b_bal:*

2: 9b_bal:*

4: 9b_on:*

5: 9b_pal:*

7: 9b_pla:*

7: 9b_pla:*

10: 9b_pli:*

10: 9b_pli:*

11: 9b_pri:*

12: 9b_on:*

13: 9b_pri:*

13: 9b_pri:*

14: 9b_pri:*

15: em_lun:*

16: em_lun:*

17: em_lun:*

18: em_lun:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         em_vi:*
gb_htgi:*
gb_htgi:*
gb_ini:*
gb_ini:*
em_bai:*
em_bai:*
em_bai:*
em_bai:*
gb_htgi:*
gb_htgi:*
gb_htgi:*
gb_htgi:*
gb_htgi:*
gb_htgi:*
                                                                                                                                                                                                                                                                            Minimum DB seq length: 0
Maximum DB seq length: 1000000
                                                                                                                                                                                                                                                                                                                                                                                                                                         Title:
Perfect score:
                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                            Database :
                                                                                                                                                          Sequence:
                                                                                                                                                                                                                           Searched:
```

gb_htg7:*	htg	tg	u	em_hum5:*	ם	pr5	htg	gb_htg9:*	htg	Ħ	ŧ	_htg1	gb_htg14:*
45:	46:	47:	48:	49:	50:	51:	52:	53:	54:	52:	:95	57:	58:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

ш
н
ഷ
≰
×
๖

	Description	111111	5745 Sequence (X8/193 H.saptens m	72677 Mus musc	023346 Homo sa	3 H.sapien	44140 Homo sa		661 Caeno	AC006894 Caenorh	Sequence	AFUSUS46 HOMO Sapi	33 C.Durmecr	Caeno		AC023101 Homo sapi	Ношо	Homo	Ношо	. ther	AC005007 Homo sapi	HOHO	rabid	Y00459 Streptomyce	^1	Z92866 Caenorhabdi	3 A	5 Caenorhabd	ACOORAGE Sani	724 Homo	339 Homo	1741 Homo	793 Caeno	7107 Caeno	5823 Homo	HOMO	AC016356 Homo sapi	LO / B HOINO	ALI38/IB HOMO Sapi	0.0001 7730	1957 HOMO SA	1173
SUMMARIES	ΩI	1	195745	HS219MRNA		AC023346	HSG6PDGEN	ğ	AC006364	0	AC006894	7	AFUSU946	AL133377	AC006745	AC018572	AC023101	AC006981	AC005369	AC010126	TETTFAG	AC008933	•		SGSTR	CEY76A2A	CEY76A2	ATHRD21A	CELTOSDS	ACOURED 2	AC008724	3	1174	m.	AB017107	AC015823	AC018361	AC016356	ACUITO/8	AL138/18	2000000	٥.	1163
	DB	;	2	J 0	, [55	σ	40	40	34	41	ດ ເ	7 -	۰ ۲	41	43	54	40	11	42	3.4	0.4	44	. &	П	34	32	7	3	о 4 С	44	44	22	32	34	43	28	4 4	4 (2 6	7	4 4	
	Length	6	S	1606	* 4	178137	CI	5	132319	37	п.	1200	1302	ະເ	10	69	61771	~	74	ם כש	η-	n a	, (T	, —	CA	13	on ·	ͺ,	σ,	64168	ຸດາ	33	_	26	(1	23	9	169889	77	70	nc	א כ	")
ď	Query Match		44.0	39.0	28.4	 o m	-4	ä														9.0								٠		6.1	•		•		٠		•		•	•	
	Score	3 :	94.	260.6		90.	9	ė.	ä	52	ຸນ	o	٠.	40	۰ ۰	ς.	ä	ä	ή,	∴.		٦.	; –	. 4	41	41	4	٠. د	· ·	40.4		ö	0	0	٠.	٠ م	ۍ د	ن د	, c	o		, (,
	Result No.		-	77 6		, ro	9	c 2	80		c 10	٦,	12	٦,	15	16	c 17	18	c 19	20	7 (77 0	10	1 (1	26	c 27	~	(7)	0 30 0 30	יי רי	m	c 34	m	m	37	m	33	40	4.4	42	* <	C 44	4

ALIGNMENTS

~

```
(bases 1 to 1606)
                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                       source
                       TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         542
                                                                                                                                                                               gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   902
           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      130
REFERENCE
                                                                                                                                                                                                     CDS
                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ğ
                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                              121 GTGAAATTCCTTAAAGAAATTCCGGGGGGGGCGCACTGGTGCTGGTGCTCGTCCTACGACGAT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    505 genaarcarytnggnttymgngaywsntgggtnttyathggngenaargayytnmgnggn 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                               325 acnggngcngtnytnggncaraargcnttygayatgtaywsnggngaygtnatgcayytn 384
                                                                                                                                                                                                                                                                                                                                                                                                                                     444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    265 atgwsnccngtnaaraayaaygtnggnmgnggnytnaayathgcnytngtnaayggnacn 324
                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                  1 ATGAGTCCTGTGAAAAACAATGTGGGCAGAGGCCTAAACATCGCCCTGGTGAATGGAACC 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia; Eutheria; Primates; Catarhini; Hominidae; Homo.
1 (bases 1 to 1606)
Bione, S., Tamanini, F., Maestrini, E., Tribioli, C., Poustka, A., Torri, G., Rivella, S., and Toniolo, D.
Transcriptional organization of a 450-kb region of the human obroonsome in Xq28
Proc. Natl. Acad. Sci. U.S.A. 90 (23), 10977-10981 (1993)
                                   01-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                 gtnaarttyytnaargarathccnggnggngcnytngtnytngtngcnwsntaygaygay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 CCAGGGACCAAAATGAACGATGAAAGCAGGAAACTCTTCTCTGACTTGGGGAGTTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 GCAAAACAACTGGGCTTCCGGGACAGCTGGGTCTTCATAGGAGCCAAAGACCTCAGGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       565 aarwsnccnttygarcarttyytnaaraaywsnccngayacnaayaartaygarggntgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    445 ccnggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntay
                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                              Length 548;
                                                                                                                                                                                                                               others
                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         m
                                   PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRI
                                                                                                                                                                                                                                                                                .,
S
                                                                                                                                                                                                                                                                             Query Match

44.0%; Score 294.6; DB 5;
Best Local Similarity 59.3%; Pred. No. 1.4e-61;
Matches 240; Conservative 93; Mismatches 72;
                                                                                                                                                                                                                             ų
                                                                                                                                   1 (bases 1 to 548)
Yu,G. and Rosen,C.
Colon specific genes and proteins
Patent: US 5733748-A 6 31 MAR-1998,
Location/Qualiflers
                                                                                                                                                                                                                             107
                                              5733748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HS219MRNA 1606 bp mRNA
H.sapiens mRNA for 2.19 gene.
X87193
                                                                                                                                                                                                                /organism="unknown"
128 c 173 g
                                  548 bp DN
6 from patent US
                                                                       GI:3940215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   X87193.1 GI:854081
                                                                                                                                                                                                     . 548
                                                                                                                          Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                 195745
Sequence 6
195745
195745.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2.19 gene.
                                                                                                                                                                                                                               ø
                                                                                               Unknown
                                                                                                                                                                                                                            137
                                                                                                              Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human.
                                                                     VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
SOURCE
ORGANISM
                                             DEFINITION
                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                  AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                  385
                                                           ACCESSION
                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HS219MRNA
                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
       RESULT
195745
                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
```

```
/translation="MRLAGPLRIVVLVVSVGVTWIVVSILLGGPGSGFPRIOQLFTSP
BSSYTAAPRAKKTGLEDQULFTARTVSGSANVIGPKTGLEDKUMLSSYKDNVG
RGINIALVNGVSGELIEARAPDWAGDVNDLLKFIRPLHEGTLVFVASYDDPATKMNE
BTRKLFSELGSRNAKELAFRDSWVFVGAKGVONKSPFEQHVKNSKHSNKYEGCPBALE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                   Instituto di Genetica
Via Abbiategrasso 207, 27100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gargaymgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnytnaayathgcn 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaygtnatgcayytngtnaarttyytnaargarathccnggnggngcnytngtnytngtn 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           130 acnaargarathcargtnaaraartayaartgyggnytnathaarccntgyccngcnaay 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ytngtnaayggnacnacnggngcngtnytnggncaraargcnttygayatgtaywsnggn 369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          662 GATGTCAACGACCTGTTGAAGTTTATTCGGCCACTGCACGAAGGCACCCTGGTGTTCGTG 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          190 tayttygcnttyaarathtgywsnggngcngcnaaygtngtnggnccnacnatgtgytty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytnttywsngay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtnttyathggngcn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      aargayytnmgnggnaarwsnccnttygarcarttyytnaaraaywsnccngayacnaay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  610 aartaygarggntggccngarytnytngaratggarggntgyatgccnccna 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               39.0%; Score 260.6; DB 9; llarity 47.4%; Pred. No. 3.6e-53; Conservative 104; Mismatches 176;
                                                                                                                                                                                                                                                                                                                                             /protein_id="CAA60645.1"
/db_xref="GI:854082"
/db_xref="SWISS-PROT:P98173"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ų
             Direct Submission
Submitted (09-MAY-1995) D. Toniolo,
Biochimica ed Evoluzionistica, CNR,
                                                                                                                           /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="x"
/cell_line="fetal brain"
/clone_lib="lambda ZAP"
/map="q28"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     281
                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     503
                                                                                                                                                                                                                                                                                                                               /codon_start=1
                                                                                                                                                                                                                                                             /gene="2.19"
278. .970
/gene="2.19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEGCIPRRSTAS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3. .1593
521 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1588.
                                                                           Pavia, ITALY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
Toniolo, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   polyA_signal
BASE COUNT 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 252;
```

m

```
acnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntaygcnaar 510
                                                                                                                   511 carytnggnttymgngaywsntgggtnttyathggngcnaargayytnmgnggnaarwsn
                           631 ytnytngaratggarggntgyatgccnccnaarc 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product="EF-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LLELEGCVPRKVM'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 (bases 1 to 465)
Fu, X. and Kamps, M.P.
                                                                                                                                                                                                                                                                                                           U72677.1 GI:1872484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         129 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .465
                                                                                                                                                                                                                                                                                                                                                     Mus musculus
                                                                                                                                                                                                                                                                                                                                   house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 169;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                      MMU72677/c
LOCUS
                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  325
                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
               451
                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                        KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                             VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                П
                                                                                                                                               셤
                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                       g
                                                                  à
                                                                                           g
                                                                                                                     ŏ
                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The cloning of a cDNA for novel genes expressed in human osteoblast Unpublished (1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                 Direct Submission
Submitted (14-AUG-1996) to the DDBJ/EMBL/GenBank databases. Ikko
Ohno, Institute for Molecular and Cellular Biology, Osaka
University, Molecular Genetics; 1-3 Yamada-Oka, Suita, Osaka
Japan (E-mail:kousaku@imcb.osaka-u.ac.jp, Tel:81-6-879-7992,
Rax:81-6-877-1922)
2 (Dases 1 to 2475)
Ohno,I., Hashimoto,J., Takaoka,K., Ochi,T., Okubo,K. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      331 gcngtnytnggncaraargcnttygayatgtaywsnggngaygtnatgcayytngtnaar 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    330 AGATATAAGTGTGGGATCTCAAAAGCTTGCCCTGAGAAGCATTTTGCTTTTAAAATGGCA 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   391 ttyytnaargarathccnggnggngcnytngtnytngtngcnwsntaygaygayccnggn 450
                                                                                         Homo sapiens cancellous bone tissue_lib:3 end-directed library osteoblast cell_line:primary-cultured cDNA to mRNA, clone_lib:lambda ZAP clone:GS3786.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                          11-MAR-1998
                                                                                                                                               Bukaryota; Metazoa; Chordata; Vertebrata; Mammalia; Butheria;
Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aartayaartgyggnytnathaarccntgyccngcnaaytayttygcnttyaarathtgy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 2475;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            37.1%; Score 248.2; DB 9; Length 47.9%; Pred. No. 4.2e-50; Live 94; Mismatches 174; Indels
                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
1. 2475
/ Organism="Homo sapiens"
/ Organism="Homo sapiens"
/ db_xref="taxon:9606"
/ cell_line="primary-cultured"
/ cell_type="osteoblast"
/ clone="iG3786"
/ clone=lib="lambda ZAP"
/ tissue_lib="a and-directed library"
/ tissue_type="cancellous bone"
168 .851
                           PRI
cds.
               DB7120 2475 bp mRNA
Homo sapiens mRNA for GS3786, complete
D87120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          527 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /codon_start=1
                                                                                                                                                                    1 (bases 1 to 2475)
Ohno, I.
                                                                D87120.1 GI:1507673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EGCIPQKQD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 246; Conservative
                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                              Matsubara, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          811
                                                                               GS3786.
                                     DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
                                                                                                                                                                                      AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  151
                                                                                                                                   ORGANISM
                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
RESULT
             D87120
                          LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δy
```

```
/procein_id="AaB51037.1"
/procein_id="AaB51037.1"
/db_xref="G1:1872485"
/translation="RGQVMKKDFDMYSGDPQLLLNFLTEIPDSTLVLVASYDDPGTK
MNDKINFLFSNLGSSYARQLGFRDSWYFVGARDLKSKSPYEQPLKNNPETNKYDGWPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  San
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       385 gtnaarttyytnaargaratheenggngengenytngtnytngtngenwsntaygaygay 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              404 CTGAACTTCCTTACGGAAATTCCAGATAGCACCCTGGTGCTGCTGGTAGCTGCTCATGATGATGA 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        acnggngcngtnytnggncaraargcnttygayatgtaywsnggngaygtnatgcayytn 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
Submitted (27-SEP-1996) Pathology, University of California,
Diego, 9500 Gilman Drive, La Jolla, CA 92093, USA
                                                                                                                                   29-MAR-1997
                                                                                                                                                                                                                                                                                              Mammalia;
                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 465)
Fu,x. and Kamps,M.P.
E2a-Pbx1 induces aberrant expression of tissue-specific and developmentally regulated genes when expressed in NIH 3T3 fibroblasts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 465;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /strain="BALB/c"
/db_xref="taxon:10090"
/cell_line="NHH373"
/cell_type="E2a-Pbx1 induced fibroblasts"
complement(117. .>465)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    96; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein"
                                                                                                                                   ROD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Mol. Cell. Biol. 17 (3), 1503-1512 (1997)
97184476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28.4%; Score 189.8; DB 1
49.9%; Pred. No. 5.4e-36;
iive 74; Mismatches 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="similar to human 2.19
/codon_start=2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ب
MMU72677 465 bp mRNA
Mus musculus EF-7 mRNA, partial cds.
U72677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   109
```

ö

g

ð

g

ò 엄

g ò

ò

```
Jp ...
length
'n length
                               in length
                                                                                                                                                                                                                                      bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                       in length
                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               op in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bp in length'
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                            length
                                                                                                                                                               ength
                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                 ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ength.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ength.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ength.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pp in
                                                                                                                                                                                         ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contig of 5984 by applying the contig of unknown looming of 5144 by app of unknown looming of 4814 by app of unknown looming of 5324 by app of unknown looming of 5324 by app of unknown looming of 4962 by app of unknown looming of unknown loo
                                                          unknown
of 1899
                                                                                                                                                                                                                                                                                                                                                                                                                     unknown
of 2589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unknown
of 2806 l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     unknown
of 2616
                                                                                                                                                                                 1500
                                                                                                                                                                                                                                                                                                                                                                unknown
of 2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             unknown
of 2875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
of 3783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unknown
of 3574 |
unknown
                                                                                                                                    2073
                                                                                                                                                                                                                                      1452
                                                                                                                                                                                                                                                                                                                                           2326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2226
                                                                                                                                                            unknown
                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                         1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of 1695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        unknown
                                                                                                            unknown
                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                           unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of 3234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of 2493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of 3233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of 2883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of 4717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of 5923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig of unk gap of unk gap of unk contig of contig of unk gap of unk gap of unk contig of gap of unk contig of gap of unk contig of gap of unk gap of un
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       οţ
     contig
gap of
                                                                                                                                                                                                                                                                                      contig
gap of
contig
gap of
contig
gap of
contig
gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig
gap of
gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
     18784:
20759:
20777:
22676:
22694:
                                                                                                                                                                                                            26303:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             39118:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          43198:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            50761:
53995:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               67559:
67577:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      138534:
138552:
                                                                                                                                                                                                                                                                                                                                                                                                                     34403:
                                                                                                                                                                                                                                                                                                                                                                                                                                           36992:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         45591:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      50743:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 54013:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           56896:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   56914:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                62041:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62059:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          65333:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  70452:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          70470:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75285:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80002:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      87054:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13263:
                                                                                                                                                                                                                                                                                                                                      32098
                                                                                                                                                                                                                                                                                                                                                                                           34385:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        39136:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40849:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     37010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  43180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           59407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    75267
  18767
18785
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
22677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       70453
70471
75268
75286
80003
80003
80003
87055
87055
87055
93057
93057
93057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        103129
107943
107961
113264
113282
118606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123586
123604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            134943
134961
138535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   103111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (11-FEB-2000) Genome Sequencing Center, Washington
University School of Medicine, 4444 Forest Park Parkway, St. Louis,
MO 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HTG 11-FEB-2000 SEQUENCING IN PROGRESS ***,
                          564
                                                                                                                                                       225
                                                                                                                                                                                                         624
                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 178137)
Waterston, R.H.
The sequence of Homo sapiens clone
Unpublished
                                                                                                                               ccnggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntay
                                                                                                    gcnaarcarytnggnttymgngaywsntgggtnttyathggngcnaargayytnmgnggn
                                                                                                                                                                                                      aarwsnccnttygarcarttyytnaaraaywsnccngayacnaayaartaygarggntgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           center project name: H_NH0475023.

* NOTE: This is a 'working draft' sequence. It currently consists of 53 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig of 1212 bp in length accounting of 1108 bp in length of 1108 bp in length of 1108 bp in length contig of 1161 bp in length contig of 1315 bp in length of 1315 bp in length of 1315 bp in length of 1660 bp in length contig of 1660 bp in length of 1660 bp in length of 1680 bp in length of 1680 bp in length of 1292 bp in length of 1889 bp in length of unknown length of unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              unknown length
of 1545 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                         ccngarytnytngaratggarggntgyatgccnccnaar 663
                                                                                                                                                                                                                                                                                                                                of 1803 k
unknown 1
of 1448 b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unknown 1
of 1386 b
unknown 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
of 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AC023346 178137 bp DNA
Homo sapiens clone RP11-475023,
unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC023346.1 GI:6960447
HTG; HTGS_PHASE1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 (bases 1 to 178137)
Waterston, R.H.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2338:
3517:
3517:
3535:
48850:
6528:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15188:
15206:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9463:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2750:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14154:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17221:
18766:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1213
1213
12331
12331
12331
12331
12331
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13318
13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
445
                                                                                               505
                                                                                                                                                 284
                                                                                                                                                                                                    265
                                                                                                                                                                                                                                                                                                      625
                                                                                                                                                                                                                                                                                                                                                                                                                                                             AC023346/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
```

```
join(3351. .3470,13327. .13364,13460. .13568,14118. .14335,
15007. .15165,15343. .15468,15834. .15927,16375. .16561,
16701. .16936,17041. .17117,17223. .17315,17413. .17503)
/gene="GGPD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ASTNSDDVRDEKVKVLKCISEVQANNVVLGQYVGNPDGEGEATKGYLDDPTVPRGSTT
TRADVVLYVENERMDGVPFILRCGKALNERKAEVRLQFUNYGADIFHQCKRNELVI
RVQPNEAVYTKMMTKRÇMKPENPESELDLTYGNRYKNYKLDPAFER.ILDVPGGSQM
HFVRSDELREANRIFTPLLHQIELEKPKPIPYIYGSRGPTEADELMKRVGFQYEGTYK
                         1-20114 bp: 6 corrections made from X55448, including 8850 (delete T), 14575 (add C), 18788 (delete C), 19369 (delete G), 19389 (delete G), and 19480 (T changes to A); G6PD: Glucose-6-phosphate Dehydrogenase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /db_xref="SWISS-PROT:P11413"
/translation="MAEQVALSRTQVCGILREELFQGDAFHQSDTHIFIIMGASGDLA
KKKIYPTIWWLFRDGLLPENTFIMGYARSRLTVADIRKQSEPFFKATPEEKLKLEDFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ARNSYVAGQYDDAASYQRLNSHMDALHLGSQANRLFYLALPPTVYEAVTKNIHESCMS
QIGWNRIIVEKPFGRDLQSSDRLSNHISSLFREDQIYRIDHYLGKEMVQNLMVLRFAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RIFGPIWNRDNIACVILTFKEPFGTEGRGGYFDEFGIIRDVMQNHLLQMLCLVAMEKP
          /note="1-20111 bp replaces previous submission X55448,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="glucose-6-phosphate dehydrogenase"
/protein_id="cAA39089.1"
/db_xref="GI:452269"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="in the middle of intron 8"
                                                                                                                                                                                                                                                                                              /evidence=experimental
2252. 18112
/gene="GGPD"
343. 3470
/gene="GGPD"
/citation=[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /number=9
16701. .16936
/gene="GGPD"
/number=10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /citation=[1]
/replace="t"
16375. .16561
/gene="G6PD"
                                                                                                                                                   2252. .2717
/gene="G6PD"
/citation=[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13460. .13568
/gene="G6PD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14118. .14335
/gene="G6PD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15007. .15165
/gene="G6PD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15343. .15468
/gene="G6PD"
                                                                                                                                                                                                                                     2252. .18112
/gene="G6PD"
/citation=[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13327. .13364
/gene="G6PD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15834. .15927
/gene="G6PD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /citation=[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /citation=[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /citation=[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /citation=[2]
                                                                                                               /citation=[2]
/label=G6PD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="G6PD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /number=5
15007. .15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'number=6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   number=8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'number=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /number=3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /number=4
                                                                                                                                                                                                                      /number=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WVNPHKL"
                                                                                                                                                                                                                                     prim_transcript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     exon
                                                                                                                                                                                                                                                                                                                          gene
                                                                                                                                                                                                                                                                                                                                                                   exon
                                                                                                                                                          exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryotta; Metazoa; Chordata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhin; Hominidae; Homo.

1 (bases 1 to 52173)

2010, M., Mazzarella, R., Bione, S., Toniolo, D., Schlessinger, D., D'Urso, M. and Chen, E.Y.

Sequence and gene content of the RCP/GCP-G6PD region in human Xq28: the first 52kb
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
Submitted (12-JAN-1994) Ellson Y Chen Dr., Advanced Center for Genetic Technology, Applied, Biosystems Division, Perkin Elmer Corp., 850 Lincoln Centre Drive, Foster City, CA, 94404, USA on Jan 26, 1994 this sequence version replaced gi:31540.

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                           454 aaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntaygcnaarcar 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chen, E.Y., Cheng, A., Lee, A., Kuang, W.J., Hillier, L., Green, P., Schlessinger, D., Ciccodicola, A. and D'Urso, M. Sequence of human glucose-6-phosphate dehydrogenase cloned in plasmids and a yeast artificial chromosome Genomics 10 (3), 792-800 (1991)
                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSG6PDGEN 52173 bp DNA PRI 20-AUG-19
H.sapiens G6PD gene for glucose-6-phosphate dehydrogenase.
X55448 229527
X55481 GI:450527
2-19 protein; G6PD gene; glucose-6-phosphate dehydrogenase.
                                                                                                                                                                                                                                                                                                                                           Length 178137;
                                                                                                                                                                                                                                                                                                                                                                                      ö
147398: contig of 8846 bp in length

7399 147416: gap of unknown length

7417 155917: contig of 8501 bp in length

5918 155935: gap of unknown length

1583 168242: contig of 12307 bp in length

1343 168259: gap of unknown length

1260 178137: contig of 9878 bp in length.

Location/Qualifiers
                                                                                                                                                                                                                                                          40913 c 41468 g 47960 t 1065 others
                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                         13.6%; Score 90.8; DB 55;
ilarity 52.7%; Pred. No. 2.9e-11;
Conservative 39; Mismatches 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone_lib="pTM by Tom Vulliamy" misc_difference 1. .20111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1. .52173
/organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="X"
                                                                                                                                                                                              /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone="Cosmid TV1"
                                                                                                                                                                                                                                     /clone="RP11-475023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 20111)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 52173)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /map="q28"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Db 109022 TTTGAGCAGGT 109012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             574 ttygarcartt 584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 69; Conserv
                                                 147417
155918
155936
168243
168260
                                                                                                                                                                                                                                                              46731 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     91365390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chen, E.Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    uman.
                                                                                                                                                                                                                                                              BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 6
HSG6PDGEN
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
                                                                                                                                                                                                                                                                                  ORIGIN
```

ŏ

ŏ

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        144140.

144140.1 GI:1203968

144140.1 GI:1203968

1480.1 GI:1203968

1480.1 GI:1203968

1480.1 GI:1203968

1580.1 GI:1203968

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Long-range sequence analysis in Xq28: thirteen known and six candidate genes in 219.4 kb of high GC DNA between the RCP/GCP and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 219447)
Chen,E.Y., Zollo,M., Mazzarella,R.A., Ciccodicola,A., Chen,C.-N., Zuo,L., Heiner,C., Burough,F.W., Ripetto,M., Schlessinger,D. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Department of Molecular Microbiology and Center for Genetics in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  St. Louis MO 63110 USA
e-mail: ellson@genseq.apldbio.com and davids@genetics.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ellson Chen,
Advanced Center for Genetic Technology,
Applied Blosystems Division of Perlin Elmer Corp., 850 Lincoln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens chromosome X region from filamin (FLN) gene to glucose-6-phosphate dehydrogenase (G6PD) gene, complete cds's.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 52173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
11.4%; Score 76.2; DB 9;
Best Local Similarity 45.4%; Pred. No. 8.1e-08;
Matches 64; Conservative 37; Mismatches 40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Washington University School of Medicine,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hum. Mol. Genet. 5 (5), 659-668 (1996)
96311563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ||::: || ||:||:||: |
41815 CAAGAGCCCCTTTGAGCAGGT 41835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Foster City, CA 94404 USA
                                                                                                                                                                                                                                                                                                                                                 41546. .41630
/gene="2-19"
/citation=[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   564 naarwsnccnttygarcartt 584
                                                                                   40689. .40747
/gene="2-19"
             /citation=[1]
/label=exon4
                                                                                                                                      /citation=[1]
/label=exon5
                                                                                                                                                                                                                       .41225
                                                                                                                                                                                                                                                                        /citation=[1]
                                                                                                                                                                                                                                                                                                   /label=exon6
                                                                                                                                                                                                                                          /gene="2-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HUMFLNG6PD 219447 bp
                                                                                                                                                                                            /number=5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           David Schlessinger,
                                                                                                                                                                                                                                                                                                                              /number=6
                                                                /number=4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted by:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G6PD loci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D'Urso, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 7
HUMFLNG6PD/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                         exon
                                                                                                                                                                                                                       exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
MEDLINE
COMMENT
                                                                                                                                                                                                                                                                                                                                                      exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               jóin(33277. 33289,36113. 36226,37166. 37189,40439. 40562,
40689. 40747,41175. 41225,41546. 41630,41707. 41833,
42131. 42226)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="downstream G6PD intergenic region"
/citation=[1]
/replace="t"
33000. .33289
/gene="2-19 gene"
/citation=[1]
                                                                                                                                 /note="near the end of intron 11"
/citation=[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              join(33277. .33289,36113. .36198)
/gene="2-19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /evidence-experimental
/product-"2-19 protein"
/protein_id="CAA39090.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /citation=[1]
/evidence=experimental
33000. .33289
/gene="2-19 gene"
33000. .42862
/gene="2-19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /evidence=experimental
19058
                                                                                                                                                                                                                                                                                                                                                                                                                       3'UTR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label-protein2-19
                                                                                                                                                                                                                                                                                                                                                                                         /gene="G6PD"
/note="exon13,
                                                                                                                                                                                                                                                                                   17413. .18112
/gene="G6PD"
/number=13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /replace"g"
18094. .18099
/gene="G6PD"
18112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /codon_start=1
                                                                                                                                                                                                          17223. .17315
/gene="G6PD"
17041. .17117
/gene="G6pD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       prim_transcript 33000. .42862 /gene="2-19"
                                                                                                                                                                                                                                                                                                                                                                                                                                            citation=[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /citation=[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         36113. .36226
/gene="2-19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        37166. .37189
/gene="2-19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /citation=[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /citation=[1]
/label=exon2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40439. .40562
/gene="2-19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /citation=[1]
                                                                                                      /gene="G6PD"
                                                                                                                                                                                       'replace="c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="G6PD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEGCIPRRSTAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label=exon3
                                                        'number=11
                                                                                                                                                                                                                                                                'number-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'number-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /number=3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /number=2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                polyA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   polyA_site
                                                                              variation
                                                                                                                                                                                                                                                                                                                                                                      variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene
     exon
                                                                                                                                                                                                               exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               exon
                                                                                                                                                                                                                                                                                             exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       exon
```

```
.0159.
                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
     repeat_unit
                                                       repeat_unit
                                                                                                        repeat_unit
                                                                                                                                                                                                          repeat_unit
                                                                                                                                                                                                                                                           repeat_unit
                                                                                                                                                                                                                                                                                                           repeat_unit
                                                                                                                                                                                                                                                                                                                                                             repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_unit
                                                                                                                                                        repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDS
                               1.1 and 1.2, coupled with fasta and blastx comparisons to genbank
                                                                non-redundant peptide libraries. Repeat analysis was accomplished
Note: Gene predictions were accomplished with runs of Grail
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complement(7358. .7432)
/rpt_family="Alu-Sb0 or Alu-Sb1"
/evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /evidence=experimental
complement(3663. .3952)
/rpt_family="Alu-Sb0 or Alu-Sb1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /rpt_family="Alu-Sb0 or Alu-Sb1"/evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /rpt_family="Alu-Sx"
/vpt_family="Alu-Sx"
/evidence=experimental
complement(8863. 9029)
/rpt_family="Alu-J or Alu-S"
/evidence=experimental
complement(9031. 9317)
/rpt_family="Alu-Sq"
/evidence=experimental
complement(9318. 9942)
/rpt_family="Alu-J or Alu-S"
/evidence=experimental
                                                                                                                                                                                                                                   /rpt_family="Alu-Sp or Alu-Sq" /evidence=experimental
                                                                                                                                                                                                                                                                                      /rpt_family="Alu-J or Alu-S"
/evidence=experimental
                                                                                                                                                                                                                                                                                                                                       /rpt_family="Alu-J or Alu-S"/evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4912. .5046
/rpt_family="Alu-J or Alu-S"
/evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /rpt_family="Alu-J or Alu-S"/evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /rpt_family="Alu-Sx"
/rpt_family="Alu-Sx"
/rpt_denent(1446. 1536)
/rpt_family="Alu-J"
                                                                                                                                                  /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="X"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'rpt_family="CpG Island"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /evidence=experimental
complement(7121. .7409)
/rpt_family="Alu-Sp"
/evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    complement(7426..7701)
/rpt_family="Alu-J"
/evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5632. .5805
/rpt_family="Alu-Sq"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /rpt_family="Alu-Sx"
                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3095. 3426
                                                                                                                                                                                                     /map="X"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6363.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5047.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6369.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8306.
                   versions
                                                                                                     censor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                      repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_unit
                                                                                                                                                                                                                       repeat_unit
                                                                                                                                                                                                                                                                                                                         repeat_unit
                                                                                                                                                                                                                                                                                                                                                                          repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_unit
                                                                                   via
                                                                                                                                      source
                                                                                                                   FEATURES
```

Complement (join(19301. 19488,19814. 20017,20101. 20319, 20483. 2059,2336. 21493,22033. 22148,2335. 22473, 22643. 22633. 22599,23005. 23177,23224. 23376,23453. 22673, 22683. 22599,23005. 23177,2324. 23376,23457. 24955,24600. 24179,24377. 24945,24603. 24743, 24833. 24935,2568. 25163,25277. 25524,27701. 27724, 27844. 229875,28649. 28665,28895. 29018,29434. 29604. 29656. 29856,293009,30095,30182. 30355,30440. 31037,31758. 332020,32120. 33237,33429. 33598,32692. 32782,34976. 33508,33111. 33234,34472. 34615,34709. 34822,34976. 35169,35277. 36673,36757. 36619,37011. 33788,33789. 335935,34676. 357993,38090. 38187,38291. 38539,41319. 41691)) PKLNPKKARAYGPGIEPTGNMYKRABEFTVETRSAGGGEVLVYVEDPAGHQEBAKUTA NDKNRTFESWYYPEYTGTHKYTVLFAGQHIAKSPFEYYDKSQGDASKVTAGGPGLE PSGNIANKTTY FEIFTAGAGTGEVEVYLODPMGOKGTVEPQLEARGDSTYRCSYQPTM EGWHYHTVTFAGVPIPRSPYTYTVGQACNPSACRAVGRGLQPKGVYKKETADFKVYTK GAGSGELKVTVKGPKGEERVKQKDLGDGVYGFEYYPWVPGTYIVTITWGGQNIGRSPF QQNTFTRWCNEHLKCVSKRIANLÖTDLSDGLRLIALLEVLSQKKMHRKHNQRPTFRQM QLENVSVALEFILDRESIKLVSIDSKAIVDGNLKLILGLIWTLILHYSISMPMWDEEED **EEAKKQTPKQRLLGWIQNKLPQLPITNFSRDWQSGRALGALVDSCAPGLCPDWDSWDA** /translation="MSSSHSRAGQSAAGAAPGGGVDTRDAEMPATEKDLAEDAPWKKI /rpt_family="cpg Island"
/rpt_family="cpg Island"
/evidence=experimental
complement(11884 ...12163)
/rpt_family="Alu-Sp0 or Alu-Sb1"
/evidence=experimental complement (12195...12482)
/rpt_family="Alu-J or Alu-S"
/evidence=experimental
complement (12668...12945)
/rpt_family="Alu-J or Alu-S"
/evidence=experimental
complement (18360...18648)
/rpt_family="Alu-ShO" complement(10740. .10860) /rpt_family="Alu-J or Alu-S" /evidence-experimental complement(10455. .10739) /rpt_family="Alu-Sx" complement(10866. .11156)
/rpt_family="Alu-Sx"
/evidence=experimental
11223. .11501 /evidence=experimental complement(18984. .19488) /gene="FLN" /evidence=experimental complement(18984. .45006) /gene="FLN" /protein_id="AAA92644.1" /db_xref="G1:1203969" /rpt_family="Alu-J" /evidence=experimental 11638. .13564 'evidence-experimental /evidence=experimental 10271. .10367 /evidence=experimental /evidence=experimental evidence=experimental /evidence=experimental 'rpt_family="Alu-Sq" /rpt_family="Alu-Sp" 9486. .9773 /rpt_family="Alu-J" 'rpt_family="Alu-J" /product="filamin /codon_start=1 'number=48

```
AGGGDVSIGIKCAPGVGPAEADIDPDIIRNDNDTFTVKYTPRGAGSYTIMVLFADQA
TPTSPTRVKVEVBSHDASKVRAEPGELSRTGVELGKPTHFTVARAAGKGKLDVOFSGL
TKGDAVRDVDII DHADNTTYVKATPVQGGPVGVNVTYGGDPIPRSPSVASPSLDLS
KIKVSGLGEKVDVGKDDFTVKSKGAGGGKVASKIVGPSGAAVPCKVBFGLGADNSV
VRELPREEPEPPEPEPEPLAVAFTRESKVKAFGFGLGGGSAGSPARF
TIDTKGAGTGGLGLYVFGPCPAQLECLDNGDGTCSVSYVPTPFGDNINILFADTHIP
GSPFRHVVPCFDASKVKCSGFGLERATAGEVGQFQVDCSSAGSAELTIEICSEAGLF
PGITGGGVFRATTEFSVDAAALTQTGGPHVKARVARPSCALTETYVODRGGNYKV
TTYFEEGLHSVDYTTEFTCPGATYTTITYGGPHVKARVARDFGNTTFTYVODRGGNYKV
TTYFEEGLHSVDYTTEFTCPGATYTTITYGGPHVKARVARDFGNTTFTYVODRGGNYKV
                                                                                                           EKTGVAVNKPAEFTVDAKHGGKAPLRVQVQDNEGCPVEALVKDNGNGTYSCSYVPRKP
VKHTAMVSWGGVSIPNSPFRVNVGAGSHPNKVKVYGPGGVAKTGLKAHEPTYFTVDCAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ETRGAGTGGLGLAVEGPSEAKMSCMDNKDGSCSVEY I PYEAGTYSLNVTYGGHQVPGS
PFKVPVHDVTDASKVKCSGPGLSPGMVRANLPQSFQVDTSKAGVAPLQVKVQGPKGLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EPVDVVDNADGTQTVNYVPSREGPYSISVLYGDEEVPRSPFKVKVLPTHDASKVKASG
EVKVGTECGNQKVRAWGPGLEGGVVGKSADFVVEAIGDDVGTLGFSVEGPSQAKIECI
```

ö Gaps 11.4%; Score 76.2; DB 40; Length 219447; 45.4%; Pred. No. 1.1e-07; tive 37; Mismatches 40; Indels 0; (Conservative Query Match Best Local Similarity

444 yccnggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsnta 503 à

DD 177693 CGCCAAGGAGCTGGCCTTCCGGGACCAGGGTGTTTGTCGGGGCCAAGGGTGTGCAAA 177634 ð

ò

Homo sapiens human. DEFINITION ORGANISM ACCESSION VERSION KEYWORDS AC006364 SOURCE

AUTHORS TITLE REFERENCE

JOURNAL MEDLINE REFERENCE AUTHORS

JOURNAL REFERENCE AUTHORS TITLE

TITLE JOURNAL

REFERENCE AUTHORS JOURNAL

/rpt_family="MER4-group?" 3328. .3362

1216. .1506 /rpt_family="Alu" 1514. .1858 /rpt_family="L1" 2118. .2474 /rpt_family="MalR"

/map="7q31.1-31.3" /clone="GS1-146J4" /clone_lib="GSBAC1" 522. 601 /rpt_famlly="L2" 1216. 1506

repeat_region repeat_region repeat_region repeat_region repeat_region repeat_region repeat_region repeat_region repeat_region

3328. .3362 /rpt_family="(TGGA)n" 3810. .3833 /rpt_family="POLY_G" 3880. .4030

3880. .4030 /rpt_family="MER1_type" 4108. .4397

Direct Submission Submitted (11-SEP-1999) Department of Genetics, Washington University, 4444 Forest Park Avenue, St. Louis, Missouri 63108, USA (bases 1 to 132319) MO 63108, USA TITLE AUTHORS REFERENCE

Direct Submission Submitted (11-JAN-1999) Genome Sequencing Center, Washington University School of Medicine, 4444 Forest Park Parkway, St. Louis, Direct Submission Submitted (05-MAY-1999) Genome Sequencing Center, Washington University School of Medicine, 4444 Forest Park Parkway, St. Louis, 504 ygcnaarcarytnggnttymgngaywsntgggtnttyathggngcnaargayytnmgngg 563 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 132319)

Sulston,J.E. and Waterston,R.

Toward a complete human genome sequence
Genome Res. 8 (11), 1097-1108 (1998) ACO06364 132319 bp DNA PRI 21-DEC-199 Homo sapiens BAC clone GS1-146J4 from 7q31.1-31.3, complete sequence. 2 (bases 1 to 132319)
Ryan,E., Bauer,C., Tucci,S. and Spalding,L.
The sequence of Homo sapiens BAC clone GS1-146J4
Unpublished Db 177633 CAAGAGCCCTTTGAGCAGGT 177613 564 naarwsnccnttygarcartt 584 3 (bases 1 to 132319) Waterston, R.H. MO 63108, USA 4 (bases 1 to 132319) Waterston, R.H. AC006364.3 GI:4753253

The sequence of this clone was established as part of a mapping and sequencing collaboration between the NHGRI Chromosome 7 Mapping Project (Eric D. Green, Director), John D. McPherson in the Department of Genetics (Washington University), and the Washington University Genome Sequencing Center. For additional information about the map position of this sequence, see http://www.nhgri.nih.gov/DIR/GTB/CHR7, send mailto:egreen@nhgri.nih.gov, or see http://genome.wustl.edu/gsc Waltes Loun, Submission
Direct Submission
Submitted (21-DEC-1999) Department of Genetics, Washington
University, 4444 Forest Park Avenue, St. Louis, Missouri 63108, USA
On May 5, 1999 this sequence version replaced gi:4337266. NOTICE: This sequence may not represent the entire insert of this clone. It may be shorter because we only sequence overlapping clone sections once, or longer because we provide a small overlap between neighboring data submissions. all regions were double stranded, sequenced with an alternate chemistry, or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by sequence from more than one subclone; and the assembly was confirmed by The actual start of this clone is at base position 1 of GS1-146J4; actual end is at 132319 of GS1-146J4.

Location/Qualiflers
1. 132319 This clone is from the first BAC library from Genome Systems, Inc. This sequence was finished as follows unless otherwise noted: Web site: http://genome.wustl.edu/gsc Contact: sapiens@watson.wustl.edu Center project name: H_GS146J04 Selection: chloramphenicol NEIGHBORING SEQUENCE INFORMATION: /organism="Homo sapiens" /db_xref="taxon:9606" /chromosome="7" (http://www.genomesystems.com).
Cell line: lymphoblastoid Center code: WUGSC 6 (bases 1 to 132319)
Waterston, R. MAPPING INFORMATION: SOURCE INFORMATION: restriction diqest. pBeloBAC Haplotypes: source TITLE JOURNAL AUTHORS REFERENCE FEATURES COMMENT

```
Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;
Rhabditina: Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
Rhabditina: Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
El (bases I to 37/7);
Wilson,R., Ainscough,R., Anderson,K., Baynes,C., Berks,M.,
Bonfield,J., Burton,J., Connell,M., Copsey,T., Cooper,J.,
Coulson,A., Craxton,M., Dear,S., Du,Z., Dutbin,R., Favello,A.,
Fulton,L., Gardher,A., Green,P., Hawkins,T., Hillier,L., Jier,M.,
Johnston,L., Jones,M., Kershaw,J., Kirsten,J., Laister,N.,
Latrelle,P., Lightning,J., Lloyd,C., McMurray,A., Mortimore,B.,
O'Callaghan,M., Parsons,J., Percy,C., Rifken,L., Roopra,A.,
Saunders,D., Shownkeen,R., Smaldon,N., Smith,A., Sonnhammer, E.,
Staden,R., Sulston,J., Thierry-Mieg,J., Thomas,K., Vaudin,M.,
Walthnson-Sproat,J. and Wohldman,P.,
2.2 Mb of contiguous nucleotide sequence from chromosome III of C.
                                                                                                                                                          21910. ..22000

./rpt_famlly="MERL_type"

22531 ...2572

/gene="WUGSC:H_GS146J04.1"

/note="similar to Mus musculus EST AA986059 (NID:g3167448)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              399 rgarathconggnggngcnytngtnytngtngcnwsntaygaygayconggnacnaarat 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  519 nttymgngaywsntgggtnttyathggngcnaargayytnmgnggnaarwsnccnttyga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 459 gaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntaygcnaarcarytngg
                                                                                                                                                                                                                                                                                                                                                                                                  Length 132319;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INV
                                                                                                                                                                                                                                                                                                                                                                                                  DB 40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Caenorhabditis elegans strain=Bristol N2. Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                             ch 9.2%; Score 61.4; DB 40
1 Similarity 34.2%; Pred. No. 0.00041;
64; Conservative 43; Mismatches 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Miller, N., Wamsley, P. and Twyman, B.
The sequence of C. elegans cosmid M70
Unpublished (1998)
3 (bases I to 37777)
Waterston, R.
                                                                                                                                                                                                                                                                                     23073. .23094
/rpt_family="AT_rich"
23259. .23353
/gene="WUGSC:H_GS146J04.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                       43; Mismatches
             /rpt_family="MER2_type"
20250. 20288
20255. .20588
20375. .20551
/rpt_family="L1"
/rpt_family="L1"
/rpt_family="Alu"
21910. .22000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CELM70 37777 bp DNA Caenorhabditis elegans cosmid M70.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nature 368 (6466), 32-38 (1994)
94150718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AF047661.1 GI:2911867
                                                                                                                                                                                                                                                                 uc72e08.y1
                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   :11: 1:
43536 ACAGGTT 43542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       579 reartty 585
repeat_region
                                       repeat_region
                                                                                repeat_region
                                                                                                                          repeat_region
                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CELM70/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11713. .44221
/gene="WUGSC:H_GS146J04.1"
join(11713. .11725,15668. .15772,22543. .22572,23259. .23382,
304044. .30552,31735. .31785,34555. .34639,43413. .43539,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EGCIPOKOD"

11766. 12114
/gene="wugge:"Less146J04.1"
/gene="wugge:"Less AA897626 (NID:g3034240) oj71h05.s1"
/note="wugge:"Lillor to EST AA897626 (NID:g3034240) oj71h05.s1"
/rpt_family="meR2_type"
/rpt_family="(cA)n"
/rpt_family="L"
/rpt_family="L"
/rpt_family="L"
/rpt_family="L"
/rpt_family="L"
/rpt_family="L"
/rpt_family="L"
/rpt_family="L"
/rpt_family="MIR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /rpc_family="(rA)n"
13977. 14293
13977. 14293
14556. 14624
/rpc_family="L2"
14831. 14908
14831. 14908
15668. 15772
/gene="WUGSC:H_GS146J04.1"
15668. 15772
/gene="WUGSC:H_GS146J04.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DTAARSTKPPRYKGISKACPEKHPAFKMASSAANVVGPKICLEDNYLMSGYKINNGR
GINVALANGKTGEVLDTKYFDMWGGDVAPFIEFLKAIQDGTIVLMGTYDDGARKLNDE
ARRLIADLGSTSITNLGFRDNWVFCGGKGIKTKSPFEQHIKNNKDTNKYEGWPEVVEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Translation="MRVAGAAKLVVAVAVFLLTFYVISQVFEIKMDASLGNLFARSAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11665. .11725
/note="similar to Mus musculus EST AA986059 (NID:g3167448)
                                                                                                                                                                                                                                                                                                                                                               /note="match to EST AA328782 (NID:g1981047)"
11459. 11522
//rpt_family="L2"
11660. .12114 to EST AI220397 (NID:g3802600) qg73h11.x1"
                                                                                                                                                                                                                   8111. 8253

"Toft_family="Retroviral"

10366. 10769

/note="match to EST R59425 (NID:g830120) yh17c08.rl"

/note="match to EST H18852 (NID:g885092) ym45f11.rl"

10754. 11029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="WUGSC:H_GS146J04.1"
/note="match to Q92520 (PID:g3334194); H_GS146J04.1"
                                                                                                          /rpt_family="MER1_type"
7930. 7982
/rpt_family="Retroviral"
7983. 8089
/rpt_family="(TA)n"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /protein_id="AAD54511.1"
/db_xref="GI:5870323"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /rpt_famlly="MER2_type"
17337. .17695
/rpt_famlly="MalR"
17730. .17887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /rpt_family="MER1_type"
                                                                        'rpt_family="AT_rich"
          413. .6446
/rpt_family="(CA)n"
359. .7395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16199. .16363
/rpt_family="Alu"
16710. .17046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /product="GS3786"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1c72e08.y1
             repeat_region
                                                    repeat_region
                                                                                           repeat_region
                                                                                                                                     repeat_region
                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
```

;

Fri

```
RASTATARKSELATIK SVERAILDATMGGLDTLSKLAPPERSLEDGENER SETTEREDEN RASTATARKSELATIK SVERAILDATMGGLDTLSKLAPPERSLEDGENER SETTEREDEN STATARKSELATIK SVERAILDATMGGLDTLSKLAPPERSLEDGENER SETTEREDEN STATARKSELATIK SVERAILDATMGGLDTLSKLAPPERSLAPSKUR DEN STATARVDGELKREGTTAANULGKELKGVGTMKHSASEAARLEKLIENS RINDISARKVIDSTILCKTEVESVGSHVKSVYTASQUSQLLERTLANVKITSELATISKL GNSLDSIPVETLKTRTETRQLKSSVALIKNRETVALATAKLKSESDLIVEFKENGIVKPV IGYPDCLKNKKNDEGERISNVLEVALKLEKSDOQFFKNLETNASGRIGGSSSIFKPV DALSNIKNNKNTGEVGMLKDLOVKSLPLGGSVATAITNASGKVLEKKAALVSIEDGDTV EEGLISVSEBALNILAVGSKYODFHALCHSLVLLGKEESWRSSIKKPANDTLVALTAM FKGLSQLESVDLDLQFSKYDFYNTGSCKANDSCOOKLDELKSSLQSVBPLDLQFSKYN GPLNDSCOOKLDELKSSLQSVBPLDLQFSKYN GPLNDSCOOKLDELKSSLQSVBPLDLQFSKYN KADATATAM KKAETEKRKKDTRESARRYRPVRVRTFEDQSSNSMITITEVSILIPLILII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     jóin(10513. 10570,10619. 10678,10755. 10814,11327. 11386,
11444. 13526,13578. 13932,15821. 15970)
/gene="M70.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /protein_id="AAC04435.1"
/protein_id="AAC04435.1"
/db_xref="G1:2911868"
/db_xref="G1:2911868"
/dr_anslation="MMKSLWITLGALVILESSTSSRPTSQGSKIVGGPHENIRDSTPR
DKLIAHPDRQKRAENYSPPOPKPNKFLHRLKRAENDYAYSLLMKRIPMLARVVSAISL
YNGLVDNSIPSDBATTDLLLNGGVKLKDLEFPDKTKVDDVIAKWEEASEKISGAGSVD
LHKAIVDAQTVRTWMKNVGDLNSIPDKEAFRVFEKIEKLDLKIFEFRSVSETLKLLDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QANFIKHLSKDRAHLKMKKLSKMPPVDSAKFDLTYPLGVTFDTKSDSWYITNQPYFCE
GDGFKGESK TWITYAGCDKKTAKFEDIKDSKIQNPGAITVYKEGSQIAVLCSDNSKRP
STILIDLKNSSHKASTFCSYKDRKIDFSHPARGLAFTIGGNLITMDRPPFEGDPRLR
VFRVDDDRRKTAVSDETFVLGGTSLPSFIAFGSDTVVITDLGKQQTVILIRLDDSKWK
DVKIEIIRVISATGINLSAEHILNTQYFTYVAGAQIDONGNVIIADAKNHHFKLFEPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence-not_experimental
/protein_id="AAC04438.1"
/d_xref="G1:2911871"
/translation="fQ11877ALTEEDILNVKNLNFFSPRPQESTETLPGTSNSRI
DEPEELEELDYNESLSDWSESQRSAEELAEEDELNFVENGLNDVKIESEIEETAYFPA
KVLEKKDDLYSIVEDGKTVEEGLSSFNERLKRAVSSKWGDFSALQHNLVLLGKLESW
KSSIKKPANDTLVALTAMFKGLSQLPSVDIQADLKISAIDDLLPLPISGKPKLDELKS
SLQSVEPLDLQFSKFNGALKDISTTFNGLQLVFSSGKTGNKTVSKGFAAVKKAQASTP
                                                                                                               PPASDNSMAIIIAVSVAVVLVASILIVAGLWFFGFLPFCPRKKNSKTAGRDQKGKSKK
TKKGKSKSGKEPVPISEATNSTPSGEDGSKIDTISKSKTEPIRAPPKDEGNYEDLAIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /translation-"MTITTLFTWLICFFLWYASRRFEKKKIHYPSRRORFVDYLINA
QRSEKLELHSQQQFGNRHLGCDELVKSENREKAKSTKKKEKVKSEKMKKATATTGAGS
TIDQSSKDPTRTTMASERGMTWTQRVQKEKSIKKTNSELKAAADNQTVTGGNDTTTTQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IPPETAENAWEILKNLQILKEKAIKTEEEEDIIYLSSDSESEDAEAERDDFLQKSNVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LGFIHRVSTDFPVPYVSSFHVNHRGECLILSIRDTQKVHFARLSSTNRLEPHIKSGAG
KRQGVTNPLSSKRLRISD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           complement(join(29295. .29447,30527. .30619,31518.
33056. .3487,35402. .35661,37257. .>37776))
/gene="M70.5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 34; Length 3777;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="coded for by C. elegans cDNA yk50e3.5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7.8%; Score 52; DB 34; Length 37 33.8%; Pred. No. 0.061; Live 35; Mismatches 98; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GPSSLFPADLSKKDRIRLGKVKERAVAAPEKKTKNKE"
10513. .15970
/gene="M70.1"
                                                                                                                                                                                                                                                                                               join(7676. .7746,7790. .8315)
/gene="M70.2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EEGAVPIDWPKDVKPPPRNLKLNINEI"
                                                                                                                                                                                                                                                                                                                                                                                                              /evidence=not_experimental
/protein_id="AAC04436.1"
/db_xref="G1:2911869"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complement(29295. .>37776)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6462 g 12594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                               /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /codon_start=1
                                                                                                                                                                                                                                                                    /gene="M70.2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="M70.5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6561 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 68; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gene
                                                                                                                                                                                                                                     gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /yore="coded for by C. elegans cDNA yk150h9.5; coded for hy C. elegans cDNA yk199.5; coded for by C. elegans cDNA yk2688.3; coded for by C. elegans cDNA yk2688.3; coded for by C. elegans cDNA yk2688.3; coded for by C. elegans cDNA yk6503.3; coded for by C. elegans cDNA yk101e8.3; coded for by C. elegans cDNA yk101e8.5; coded for by C. elegans cDNA yk239e5.3; coded for by C. elegans cDNA yk239e5.3; coded for by C. elegans cDNA yk239e5.5; coded for by C. elegans cDNA yk260c1.3; coded for by C. elegans cDNA yk260c1.5; coded for by C. elegans cDNA yk260c1.5; coded for by C. elegans cDNA yk316h12.5; coded for by C. elegans cDNA yk317f7.5; coded for by C. elegans cDNA yk317f7.5; coded for by C. elegans cDNA yk317f7.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAKWEEASEKISGGSTOLHKAIVDAQTVRIWMKNUGDLNSIPDKEEAFKVFEKIEKLE

LKIPEIRAVSETLKLLDSRASIATARKSLEAIIKSYRSAIDATNGGLDTLSKLAPFHS

AVKVFSFYENSAFKDIIISKPSDGKSMDADIENIKKLPVTTIFKLMSTVASRSTNILG

KYTAGFSNGYODLQK EVDLKDEWIQKTWNRETVDGLKRFKELSKTAAVLJGKLKGVGT

MKHSASEAAHLEKLIQMSSNAPISAQTIIGSIKPCTPVAVDGKHQKSVVTASQNSQLL

KKSEDLIYERKENGIVEYTGVFOLKNKNDFGPTSVALIKNRETVALLATKL

KSESDLIYERKENGIYVEYTGFOLKNKNDPFGPTSONLEYALKKRELKSNGFFTN

LEEISSEIAGSSSPIKSIRDAIANIKKSNNTEDLILLKDLQKYSAPLGNVATALNAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /translation="MKKNILIIIGILLISVFCISSGSAPFKQSETAKTSDFTAFSNAH
NIIIASGSSPSKQSETAKTSHFTDFSNAHNVIRDSPPQFKPNKFLHRVKRAENDYAYS
LLMKRIPMLARVVSAISLYNGLVDNSIPSDEAITDLLNIGGVKLKDLETFDKTKVDDV
                                          Washington
Missouri 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Coding sequences below are predicted from computer analysis, using the program Genefinder(P. Green and L. Hillier, ms in preparation). Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           all regions were double stranded or sequenced with an alternate chemistry; an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by sequence from more than one subclone
                                                                                                                                                                                                                                                                                                                                                                                                                                                        clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The 5' cosmid is T04C4, 200 bp overlap;3' cosmid is C37F5, 250 bp overlap. Actual start of this cosmid is at base position 197 of CELM70; actual end is at 37777 of CELM70
                                                                                                                                                                                                                                                                                                                                                                                                                                                IICE: This sequence may not be the entire insert of this clom may be shorter because we only sequence overlapping sections se, or longer because we provide a small overlap between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            finished as follows unless otherwise noted:
                                                                                                                                                                        Genome sequencing venical peparties of Department of Genetics, Washington University, St. Louis, MO 63110, USA, and Sanger Centre, Hinxton Hall Cambridge CB10 1RO, Epgland e-mail: rw@nematode.wustl.edu and jes@sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       complement(join(2333. .2407,2799. .3093,3145. .52:
5288. .5347,5954. .6040,6795. .6881,6952. .7009))
/gene="M70.3"
                                          Department of Genetics,
Park Avenue, St. Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NEIGHBORING COSMID INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Caenorhabditis elegans"
/strain="Bristol N2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /protein_id="AAC04437.1"
/db_xref="GI:2911870"
                                                                                                                                                             Genome Sequencing Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complement(2333. .7009)
/gene="M70.3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /db_xref="taxon:6239"
/chromosome="IV"
           Direct Submission
Submitted (11-FEB-1998)
University, 4444 Forest
Submitted by:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               neighboring submissions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="M70"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sedneuce was
           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                      COMMENT
```

.31640,

ö

Gaps

g

à

g

ò

g

δŻ

```
Db 102586 CTTGGAAGAATGGCTTGACGCGGTGCCGACCGGCTACATTGTAGCCGTTGTGAGCTTCGA 102527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D 102526 CGAGGCCTCTAATCAGCTGTCAGATAATGGCTCGGCGCATCTTTTACGAGATGGGCTCCAG 102467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     441 ygayccnggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnws 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           381 yytngtnaarttyytnaargarathccnggnggngcnytngtnytngtngcnwsntayga 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 atgtgyttygargaymgnatgathatgwsnccngtnaaraayaaygtnggnmgnggnytn 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aayathgcnytngtnaayggnacnacnggngcngtnytnggncaraargcnttygayatg 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-DEC-1997
                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                  Length 151727;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 7218;
   1905 114914: gap of unknown length
1915 118859: contig of 3945 bp in length
1860 128659: gap of unknown length
1870 126515: contig of 7646 bp in length
1871 12876: gap of unknown length
1877 128776: gap of unknown length
1877 128776: gap of unknown length
1877 128776: gap of unknown length
1878 145392: gap of unknown length
1893 151727: contig of 6335 bp in length
1893 151727: contig of 6335 bp in length
1895 151727: contig of 6335 bp in length
                                                                                                                                                                                                                                                                 842 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          368 others
                                                                                                                                                                                                                                                                                                                                                                  98; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 (bases 1 to 7218)
Dorner,F., Scheiflinger,F. and Falkner,F.Gunter.
Recombinant fowlpox virus
Patent: US 5670367-A 14 23-SEP-1997;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PAT
                                                                                                                                                                                                           /organism="Caenorhabditis elegans"
//db.xref="teaxon:6239"
//clone="Y716"
/ 26828 c 26759 g 48766 t 842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7.3%; Score 48.6; DB 5; L
9.9%; Pred. No. 0.29;
tive 169; Mismatches 214;
                                                                                                                                                                                                                                                                                                                                7.8%; Score 52; DB 41;
33.8%; Pred. No. 0.083;
tive 35; Mismatches 98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1929 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5670367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="unknown"
1491 c 1486 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA
US 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | | : || ||:|| |
Db 102406 CGCTACACCACCGTTTGAAGA 102386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 14 from patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nggnaarwsnccnttygarca 581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               I66494.1 GI:2724471
                                                                                                                                                                                                                                                                                                                             Query Match 7.8%
Best Local Similarity 33.8%
Matches 68; Conservative
                                                                                                                                                                                             1. .151727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         42; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .7218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
       114905
114915
118860
118870
                                                                        126516
126526
128767
128777
145384
                                                                                                                                                                                                                                                               48532 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1944 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unknown
                                                                                                                                                                                               source
                                                                                                                                                                                                                                                             BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          166494/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission

Submitted (24-FEB-1999) Genome Sequencing Center, Washington
University School of Medicine, 4444 Forest Park Parkway, St. Louis,
MO 63108, USA

On Mar 1, 1999 this sequence version replaced gi:4263454.

* NOTE: This is a 'working draft' sequence. It currently

* consists of 19 contigs. The true order of the places

* is not known and their order in this sequence record is

* arbitrary. Gaps between the contigs are represented as

* runs of N, but the exact sizes of the gaps are unknown.

* This record will be updated with the finished sequence

* as soon as it is available and the accession number will

* be preserved.
                                                                                                                                                                                                                                                                                                                                                                                           Caenorhabditis elegans.
Caenorhabditis elegans
Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;
Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
1 (bases 1 to 151727)
23250 CTIGGAAGAATGGCTTGACGCGGTGCCGACCGGCTACATTGTAGCCGTTGTGAGCTTCGA 23191
                                                                 23190 CGAGGCCTCTAATCAGCTGTCAGATATGGCTCGGCGCGTTTTTACGAGATGGGCTCCAG 23131
                                                                                                                        23130 TATGATCGATCGGCTCAAATTCCGAGCTTCGTGGGTATTTCGTCGGACAGAAGGCCATCGG 23071
                                                                                                                                                                                                                                                                                        AC006894 151727 bp DNA HTG 26-FEB-1999 Caenorhabditis elegans clone Y71G10, *** SEQUENCING IN PROGRESS
                                   441 ygayccnggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnws 500
                                                                                                   501 ntaygcnaarcarytnggnttymgngaywsntgggtnttyathggngcnaargayytnmg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     contig of 4066 bp in length
gap of unknown length
contig of 2961 bp in length
contig of alwhown length
contig of 34894 bp in length
gap of unknown length
contig of 6176 bp in length
gap of unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    f unknown length
g of 13245 bp in length
f unknown length
g of 9128 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of 11753 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown length
of 2973 bp in length
unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of 7142 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7058 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of 2262 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown length
of 5092 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The sequence of Caehorhabditis elegans clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unknown of 5734 h
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οĘ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contig
gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gap of
                                                                                                                                                                                          23070 CGCCTACACACGTTTGAAGA 23050
                                                                                                                                                                                                                                                                                                                           19 unordered pieces.
                                                                                                                                                                        nggnaarwsnccnttygarca 581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 (bases 1 to 151727)
Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                                           AC006894.2 GI:4309905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    104058:
104068:
109160:
109170:
114904:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4066:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41941:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               57589:
60562:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  67640:
69902:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60572:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83167:
92295:
92305:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    69912:
83157:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    67630
                                                                                                                                                                                                                                                                                                                                                                             HTG; HTGS_PHASE1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7048
41942
441942
441942
44138
50438
50438
50550
60553
60573
60563
60573
605903
60913
63168
83168
83168
83168
93296
92296
92306
104069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4067
4077
7038
                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                          RESULT 10
AC006894/c
                                                                                                                                                                      561
                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                           LOCUS
```

ö

ö

Gaps

```
RESULT 13
CBGIDPAB/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                               MEDLINE
REFERENCE
                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
              용
                                                                     g
                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 (bases 1 to 1302)
Yeary, Zhang, C., Luo, L., Ouyang, S., Zhang, S., Li, Wu, J.,
Zhou, S., Liu, M. and He, F.
Direct Submission
Direct Submission
Direct Radiation Medcine, 27 Taiping RD, Beijing 100850,
P.R.China
                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           314 tnaayggnacnacnggngcngtnytnggncaraargcnttygayatgtaywsnggngayg 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     374 tnatgcayytngtnaarttyytnaargarathccnggnggngcnytngtnytngtngcnw 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              434 sntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytng 493
taywsnggngaygtnatgcayytngtnaarttyytnaargarathccnggnggngcnytn 420
                                                          421 gtnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytn 480
                                                                                                                                                                                541 athggngcnaargayytnmgnggnaarwsnccnttygarcarttyytnaaraaywsnccn 600
                                                                                                                                                                                                                                            gayacnaayaartaygarggntggccngarytnytngaratggarggntgyatgccnccn 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                602 WKRAWYCCYTTTYMAAAWYYKKKKKRAWYYTTYCYKSMRSCYKRRGRRSCYTWRKYCCYT 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       542 TIGACKSMWITIYMRRAMCYIYCYYYITWAAAWYYIYSKWWITYMWIWWYIYMRSCMWWA 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1302)

Yu,Y., Zhang,C., Luo,L., Ouyang,S., Zhang,S., Li,W., Wu,J., Zhou,S., Liu,M. and He,F.

Enuctional prediction of the coding sequences of 50 new genes deduced by analysis of cDNA clones from human fetal liver Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                           12-JAN-2000
                                                                                                                    481 ttywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtntty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1302;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      167 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                             PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 7.2%; Score 48.2; DB 51; Best Local Similarity 14.0%; Pred. No. 0.25; Matches 33; Conservative 97; Mismatches 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ų
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      415

    1302
    /organism="Homo sapiens"
    /db_xref="taxon:9606"

                                                                                                                                                                                                                                                                                                                                                                                        M Homo sapiens clone HQ0688.
AF090046.
FLI_CDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /tissue_type="liver"
/dev_stage="fetus"
217 c 179 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     179 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone="HQ0688"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                   1045 CAGCC 1041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      324
                                                                                                                                                                                                                                                                                                        aarcc 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
 361
                                                                                        1285
                                                                                                                                                  1225
                                                                                                                                                                                                              1165
                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                               AF090946
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                 g
                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                        ð
                          g
                                                           ð
                                                                                      g
                                                                                                                    ò
                                                                                                                                                                                ò
```

```
VIYEAR THALENORPH WILFOGGODDII IONNRAAGVYTOMGLAFY APTVILTVGTFE
GGK THIGMMIT RGGRAGDPPALALAERILREMPERVELKTGTPPRIDGRIINYYOLIE
GGK THIGMMIT RGGRAGDPPALALAERILREMPERVELKTGTPPRIDGRIINYYOLIE
GOS DOPLOLAMSYWSHGEDPPALALAERILREWPERVELKTGTPPRIDGRIINYYOLIE
YCPSIEDK IV RREADBURBHENOSCHITQTNEKTHOIIRNGLKTSELSFDVOLDVIHSKTGLAK
CHITREGYTIEYDY FDDRDLK PSLETKYVFGLY FAGGINGTTGY EEAAAGGLIAGINA
ALQIOBRAWTPARDEAY IGYLIDDLTTRGTNABPY TNETSARSYRLLIKOONADLRLT
EKGRDLGCVDDERWHEYKKKETIEKEQORKKOR INPKSTYAKA
SAMDLLERPEINY PALMQIEELGPAVLEPSYKKGY NPRKSTYAKA
SAMDLLERPEINY PALMQIEELGPAVLEPSYKKGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DALIQLRWY EASIDPPEEEIDFLADER I KETLENLTHOVOEIEKTÄKGGALLERGIT
VVIAGEPNYGKSSLLNLLSGQETA IVTDIAGTTRDI I RESHIDGLETHVODTAGLRI.
PEDVVEKGYRYRTQRAVQADLLLLMIDASKPTEDEKKI I TAOMYSENDNK I PTLIVEN
KIDLIGEARKENERE PHIKLSVYRTAGVELLKNHLKNTAGFEATHENNE I ARRRHCD
AIARASAFLKNANNHLLNQKAGELVAEDLKLAQNALSEITGEFTSDDLLGKIFSEFCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /translation="MTYVFPETIAAQATPSGRGGIGVVRVSGEKTKAIAQKILGCVPK
PRYATFVKFRDSGSVIDEGIALYFPKPNSFTGEDVLELHGHGGPVVMDRLLNTVLKAG
ARQARPGEFSERAFLNNKIDLAQAEAVADLINASSEQAARSAMKSLQGEFSKRIHQLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /translation="mostsoopdviavggghagteaalvaarmgartllithnietlg
Omscnpaiggigkshlvkeidalggimalaadgagihfrtlnarkgpavratragadr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bacteria; Proteobacteria; gamma subdivision; Coxiella.
1 (bases 1 to 6031)
Willems, H., Jager, C. and Baljer, G.
Physical and genetic map of the obligate intracellular bacterium Coxiella burnetii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          196. .1554
/note="orf452; translated orf similarity to SWISS-PROT:
THDE_PSEPU thiophene and furan oxidation protein of
Pseudomonas putida"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
Submitted (08-JAN-1997) H. Willems, Institute fuer Hyggiene und,
Infektionskramheiten der, Tiere Justus-Liebig-Universitaet,
Frankfurterstr 89, 35392 Giessen, FRG
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SWISS-PROT:
662 TYCYKRWKGKYCMWKSMMYTYMWYYKGGSCYKSMRKKRAAAARKWWTYYWKTKGR 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1867. .3750
/note="orf627; translated orf similarity to SWISS-PRC
GIDA_ECOLI and GIDA_PSEPU glucose inhibited division
protein A of E.coli and Pseudomonas putida"
                                                                                                                                                                                                                                                                                                                                     DNA BCT 19-JAN-1999 for encoding glucose inhibited division
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Y10436.1 GI:1780758 glucose inhibited division protein; glycyl-tRNA synthetase. Coxiella burnetii. Coxiella burnetii
                                                                                           494 gnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtnttyathggngc 548
                                                                                                                                      /organism="Coxiella burnetii"
/isolate="Nine Mile RSA493 phase I"
/db_xref="taxon:777"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bacteriol. 180 (15), 3816-3822 (1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="SWISS-PROT:P94613"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="SPTREMBL:P94612"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /protein_id="CAA71458.1"
/db_xref="GI:1780759"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /protein_id="CAA71459.1"
/db_xref="GI:1780760"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                 C.burnetii put. genes
protein A and B.
                                                                                                                                                                                                                                                                                                                                         6031 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 6031)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Willems, H.
                                                                                                                                                                                                                                                                                                                                         CBGIDPAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98348442
                                                                                                                                                                                                                                                                                                                                                                                                                                               Y10436
```

```
progress and the release of this data is based on the understanding that the sequence may change as work continues. The sequence may be contaminated with foreign sequence from E.coii, yeast, vector, phage etc. Order of segments is not known; 800 n's separate segments. Contig_ID: 00031 Length: 2632bp Contig_ID: 00331 Length: 3732bp Contig_ID: 00382 Length: 3732bp Contig_ID: 00382 Length: 3732bp Contig_ID: 00556 Length: 3905bp Contig_ID: 00596 Length: 3905bp Contig_ID: 00595 Length: 3905bp Contig_ID: 00997 Length: 5385bp Contig_ID: 00995 Length: 4319bp Contig_ID: 01363 Length: 11549bp Contig_ID: 01363 Length: 1436bp Contig_ID: 01363 Length: 1436bp Contig_ID: 01363 Length: 32002bp Contig_ID: 01509 Length: 32002bp Contig_ID: 01509 Length: 32002bp Contig_ID: 01509 Length: 3180bp Contig_ID: 01509 Length: 3180bp Contig_ID: 01509 Length: 3180bp Contig_ID: 02156 Length: 18373bp Contig_ID: 02156 Length: 18373bp Contig_ID: 021576 Length: 18373bp Contig_ID: 022576 Length: 18373bp Contig_ID: 022576 Length: 18373bp Contig_ID: 022576 Length: 18373bp Contig_ID
On Feb 16, 2000 this sequence version replaced gi:6691734.
Incomparing the sequence is unfinished and does not necessarily represent the correct sequence. Work on the sequence is in progress and the release of this data is based on the understanding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             * arbitrary. Gaps between the contigs are represented as * runs of N, but the exact sizes of the gaps are unknown. * This record will be updated with the finished sequence * as soon as it is available and the accession number will * be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  263 3432; gap of 200 bp 24.032 bp in length 343 7164; contig of 3732 bp in length 7165 7044; gap of 800 bp 7065 17250; contig of 9286 bp in length 17251 18050; gap of 800 bp 800 bp 18051 31751; contig of 13701 bp in length 31752 32551; gap of 800 bp 23552 71375; contig of 38024 bp in length 71376 72175; gap of 800 bp 72176 76080; contig of 3805 bp in length 71376 76080; contig of 3805 bp in length 76080; gap of 800 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    185979 186778: gap of 1860 bp 186779 186778: gap of 186779 189159; contig of 2381 bp in length 189950 208332: contig of 18373 bp in length 208333 209132: gap of 800 bp 18950 222877; contig of 13745 bp in length Locatton/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9334: gap of 800 bp
113553: contig of 4319 bp in length
4353: gap of 800 bp
125902: contig of 11549 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        133992 134791; gap of 800 bp
134792 149958; contig of 14267 bp in length
149059 149888; gap of 800 bp
149859 181860; contig of 32002 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                918: gap of 800 bp
108434: contig of 14516 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   86934 87733: gap of 800 bp 1n length 86934 87733: gap of 800 bp 93118: contig of 5385 bp in length 93119 93918: gap of 800 bp 93919 108434: contig of 14516 hn in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80: gap of 800 bp
79437: contig of 2557 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6702: gap of 800 bp 133991: contig of 7289 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2660: gap of 800 bp
185978: contig of 3318 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   37: gap of 800 bp 86933: contig of 6696 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2632: contig of 2632 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               108435 109234; gap of 109235 113553; cont.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  113554 114353: 9
114354 125902: 125903 126702: 9
126703 133991:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .222877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     76881
79438
80238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="SPTREMBL:P94615"
//db_xref="SPTREMBL:P94615"
/translation="MSMTQKRGLGRGLSDLGLNELLTEINDASLADSKTELKKLTIDV
IQPGRYQPRQMCNALEELANSIRAGGIIQPIVVRPVGQYKEIJAGERRWRAAQLAG
IKEVPAVIRPITDEAAITMSLIENIQRQNLNAIEEFAAALQRLLDEFKMTHEETAABVG
KSRTSYTNSLRLLKINPDVKALLEQGHLDMGHARALLALEGFQQSEAANIIIKRALSV
RETEKLIQHWQSEGKSSANRPSMDPDVARLQHHLSDKLGAAVTIRHGAKGKGKLIHY
                                                                                                                                                                                                                                      /transl_table=11
/protein_id="CAA71460.1"
/bc.xref="G1:1780761"
/db_xref="SPROTE-PROTE 1P94614"
/translation="WTEKLKQGIDQLGLKVAETIQQSMLAFLAFLQKWNQAYNLFAIT
                                                                                                                                                                                                                                                                                                                                                                                                                 EIKSMITHHLLDSLSILPYIKGDK ILDVGSGAGFPGTPLAFACPEKKFTLIDSKAKKT
AFLLQAASRFKITNVTIJQERVGSYQPGFYFDTITCRALGSVREIMEGTNHLLRSGGQ
WLIMKGAYPEKELRGTDASAIVHVLNVPGLKAERHLVEVKNNKG"
   TAQIPSSLDYNQVTGLSNEVRQKLNETKPTTLGQASRIPGITPAAISLLLVHLKKKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5164. .>6030
/note="orf288; translated orf similarity to SWISS-PROT:
YGI2_PSBPU hypothetical 32.4 kDa protein of Pseudomomas
                                     3782. .4396
/note="orf256; translated orf similarity to SWISS-PROT:
YGIL_PSEPU hypothetical 28.9 kDa protein of Pseudomonas
putida"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3789 TCTGTCATGGTGATTACCCTTTCTCCACTCGGAGCGGGATTAGGGATAGAGTTCTTTTT 3730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3909 ATGCCGCTGAGGTTATAAGCCTGGTTCCATTTTTGGAGAAAAGCCGAGAAAGGCGAGCATT 3850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            :| | | :: | : | | | :: | | 3849 GATTGTTGGATGCCCTTAAGCCCCAATTGGTCGATGCCTTGTTTTAGTTTT 3790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
Submitted (15-JaN-2000) Sanger Centre, Hinxton, Cambridgeshire,
CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone
requests: clonerequest@sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   422 tnytngtngcnwsntaygaygayccnggnacnaaratgaaygaygarwsnmgnaarytnt 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         482 tywsngayytnggnwsnwsntaygcnaarcarytnggnttymgngaywsntgggtnttya 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         362 aywsnggngaygtnatgcayytngtnaarttyytnaargarathccnggnggngcnytng 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                *** SEQUENCING IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 222877)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7.2%; Score 48; DB 1; Length 6031;
28.8%; Pred. No. 0.39;
ive 47; Mismatches 114; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3729 CTTCAAATGAACGAGTAACAACGAAATCGCCGCTGGCGTGATTCCT 3684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              542 thggngcnaargayytnmgnggnaarwsnccnttygarcarttyyt 587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AL133377 222877 bp DNA HTG
Homo sapiens chromosome 6 clone RP1-295F6, 'PROGRESS ***, 19 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1378 g 1455 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /transl_table=11
/protein_id="CAA71461.1"
/db_xref="G1;1780762"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AL133377
AL133377.3 GI:6982045
HTG; HTGS_PHASE1; HTGS_DRAFT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /codon_start=1
                                                                                                                                                                                                                /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NSADELEGILDRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1443 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity 28.83
nes 65; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sims, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL133377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
Search completed: May 31, 2000, 18:42:56 Job time: 5915 sec
                 source
                                                                                              BASE COUNT
                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 (bases 1 to 249287)
Waterston, R.H.
Direct Submission
Submitted (13-FEB-1999) Genome Sequencing Center, Washington
University School of Medicine, 4444 Forest Park Parkway, St. Louis,
MO 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AC006745 249287 bp DNA HTG 23-FEB-1999 Caenorhabditis elegans clone Y38F2, *** SEQUENCING IN PROGRESS ***,
                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida; Rhabditina; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis. 1 (bases 1 to 249287)
Waterston, R.H.
                                                                                                                                                                                                                                                                                          33748 GGAATGACTGGTGGATGGATCTATATCCTCTTTTCTTGGTACTCACAGATCTGT 33807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    33808 ICCAGAAACCACTACAAGTGTCATGAACCTTGGGTTGCTCTCTGATTGAATTCTGGGATC 33867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Db 33868 CAAGCTGGGTAAGGAGAGAGAGATGAGTCCAGGCTGCTACAGAAGATTTTTCCATAATTT 33927
                                                                                                                                                                                                                                                                                                                                                                                                                              451 acnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnwsntaygcnaar 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             carytnggnttymgngaywsntgggtnttyathggngcnaargayytnmgnggnaarwsn 570\,
                                                                                                                                                                                                                                                              331 gcngtnytnggncaraargcnttygayatgtaywsnggngaygtnatgcayytngtnaar 390
                                                                                                                                                                                                                                                                                                                                                391 ttyytnaargarathccnggnggngcnytngtngtngcnwsntaygaygayccnggn 450
                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NOTE: This is a 'working draft' sequence. It currently consists of 5 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                            ö
                                                                                                                                                                            Query Match

6.6%; Score 44; DB 32; Length 222877;
Best Local Similarity 29.0%; Pred. No. 8.1;
Matches 76; Conservative 44; Mismatches 142; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g of 147084 bp in length
f unknown length
of 40226 bp in length
f unknown length
g of 2152 bp in length
/organism="Homo sapiens"
/db xref="taxon:9606"
/chromosome="6"
/clone_lib="RPCI-1"
60278 a 44516 c 43322 g 60358 t 14403 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              unknown length
of 56147 bp in length
unknown length
of 3643 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The sequence of Caehorhabditis elegans clone Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        147084: contig o
187303: gap of u
187328: gap of u
187328: gap of u
189480: contig o
189489: gap of u
245644: gap of u
245287: contig o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       33928 CAATATGAGCAGTTTTAAAACA 33949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  571 ccnttygarcarttyytnaara 592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HTG; HTGS_PHASE1.
Caenorhabditis elegans.
Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AC006745.1 GI:4263193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   147094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       245637
245645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                147085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              187329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                189481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       189490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 15
AC006745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
```

a ŏ

g

õ

ò

g

g

```
DD 107938 CGAGGCCTCTAATCAGCTGTCAGATATGCCTCGGCGCATCTTTACGAGATGGCCTCCAG 107997
                                                                                                                                                                                                                                                                                                                                                                                                                                                     381 yytngtnaarttyytnaargarathccnggnggngcnytngtnytngtngcnwsntayga 440
                                                                                                                                                                                                                                                                                                                                             441 ygayccnggnacnaaratgaaygaygarwsnmgnaarytnttywsngayytnggnwsnws 500
                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                             501 ntayg--cnaarcarytnggnttymgngaywsntgggtnttyathggngcnaargayytn
                                                                                                                                                                                Length 249287;
                                                                                                   1431 others
                                                                                                                                                                                                                           Indels

    11. .249287
/organism="Caenorhabditis elegans"
/db_xref="taxon:6239"

                                                                                                                                                                                                                           94;
                                                                                                                                                                                  DB 41;
                                                                                                   44143 c 43858 g 80582 t
                                                                                                                                                                                Query Match 6.5%; Score 43.2; Di
Best Local Similarity 33.8%; Pred. No. 13;
Matches 67; Conservative 35; Mismatches
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db 108058 GGCGCCTACACACCGNTT 108075
                                                                               /clone="Y38F2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 559 mgnggnaarwsnccntty 576
                                                                                                     79273 a
    FEATURES
```

Ä

```
44
                                May 31, 2000, 17:04:21; Search time 1292.59 Seconds (without alignments) -918.913 Million cell updates/sec
                                                                   1 cgcccgggcaggttgcatct.....aaattttattttgctggta 1221
                                                                                                          1765538
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                              882769 seqs, -486395729 residues
                                                                                                                                      Post-processing: Minimum Match 0%
Listing first 45 summaries
                      OM nucleic - nucleic search, using sw model
                                                                             IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                    US-09-186-342-1
1221
                                                                                                                                                                                                                                                                                                                                                                                      gb_pr4:*
gb_htg3:*
gb_htg4:*
gb_htg5:*
gb_htg6:*
                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 1000000
                                                                                                                                                                                   Title:
Perfect score:
Sequence:
                                                                             Scoring table:
                                                                                                                                                      Database :
                                                                                              Searched:
                                 Run on:
```

```
45: gb_htg7:*
47: em_htg2:*
47: em_htg2:*
48: em_htg3:*
50: gb_pt3:*
51: gb_pt3:*
52: gb_htg8:*
53: gb_htg9:*
54: gb_htg10:*
55: gb_htg10:*
55: gb_htg11:*
55: gb_htg13:*
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

			dР			SUMMARIES	
Res	Result No.	Score	Query Match	Length	DB	ID	Description
	٦,	15.	. 6		ភូរ	95745	Sequenc
ပ	· ·		n c	1/813/	ç Ç	AC023346	3346 HOMO Sa
U	n √	229.4	18.8	1505 465	12	MAUT2677	U72677 Mus musculu
,	Ŋ			2475	o	D87120	Homo
	9	•	'n.	52173	0	GEN	H.sapi
ပ	7	7		219447	40	Š	L44140 Homo sapien
	æ	56.6		132319	40	AC006364	က
O	o i	· ·	•	7218	2	166494	dneuce
O	10	۳.		35052	57	AC016137	Ношо
1	C	Α			7,5	AF-090946	
O I	77	4 -		173873		HSJ 963E22	OHOU!
ပ	7 F				0 0	H2009/A14	
כ	1 L				2 6	\	Taie.
	16	39.6	3.5	112626	4	AC008616	91.0
	17	6			2		CDN
O	18	6		2440	വ	A20493	-
	19	6		2458	S	A20495	vector
ບ	20	6		2458	Ŋ	A20496	vector
	21	ď.	•	3086	S.	A20498	RFX gene.
	22	9.	•		6	HSIGREX	sapien
	23	8			40	AC008041	НОШО
U	24	8		283438	57	AC012465	5 Homo
ບ	22	_ຜ ໌			M -	AP001141	-4 C
	9 1	80 0	•	1351	7 5	AF0220/9	
	70	e c	•	3233	7 .	AFUZ/181	Rattus
	9 0	ם מי		4000	7 -	AF 010232	MF010232 Nattus NO
•	9 6	٠,		2000	;	*E2256283	AF226283 XAD+homon
ر	, _C	٠,	1 ~	55590	4 r.	AC011531	ACO11531 Homo sani
	3 6		. 6	2454	2 2	HSSGI	Y00064 Human mRNA
Ċ	(F)		3.0	120940	55	AC018939	AC018939 Homo sapi
)	34	7			10	HS967N21	AL035461 Human DNA
O	35	3	3.0	2282	σ	HUMBCLAA	
	36	37		5200	6	HUMHSNF2B	D26156 Human mRNA
	37	37		5247	10	317	U29175 Human trans
	38	m	3.0		-	SCE39	ď,
	33	9		160218		AC010335	0
	40	36.4	•			AC021480	E
	41	ė		163253		AC011978	ACU11978 Homo sapi
ပ	45	36	2.9		42	AC015710	AC015710 Homo sapi
O		ົ,		216347		ALI 38885	ALL38885 Homo sapi
	4 .	35.8		380		40	G54682 AITYSTS0000
	45	Ď.		380	13	G60062	G6006Z SHGC-13089Z

ALIGNMENTS

us-09-186-342-1.rge

```
contig
gap of
 AC023346.1 GI:6960447
                                                                                                                                                                                      2 (bases 1 to 178137)
Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1212:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2338:
2338:
3517:
3535:
4868:
6528:
7838:
7856:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         34403:
36992:
37010:
39118:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              39136:
40831:
40849:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9463:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20777:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22676:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      32098:
                   HTG; HTGS_PHASE1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3518

3536

486516

6524

6524

7834

7854

1127

1127

1127

127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127

1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20778
22677
22695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24768
24786
26286
26304
27756
27774
29755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   32099
32117
34386
34404
36993
37011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              39119
39137
40832
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                              AUTHORS
TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                     AUTHORS
TITLE
JOURNAL
                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AC023346 178137 bp DNA HTG 11-FEB-2000 Homo sapiens clone RP11-475023, *** SEQUENCING IN PROGRESS ***, unordered pleces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gcaaaacaactgggcttccgggacagctgggtcttcataggagccaaagacctcaggggt 785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       906 tetteeteagecaggggeetgaagaageteetgeetgaettaggagteagageeeggeag 965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 486 atgagtectgtgaaaaacaatgtgggeagaggeetaaacategeeetggtgaatggaace 545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ccagggaccaaaatgaacgatgaaagcaggaaactcttctctgacttgggggagttcctac 725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccagagetgetggagatggagggetgeatgeeecegaageeattttaggggtggetgtgge 905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421 TCTTCCTCAGGCCAGGGGCCTGAAGAAGYTCCTGCCTGCATTAGGAGTCANAGCCCGGCA- 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 GCAAAACAACTGGGCTTCCGGGACAGCTGGGTCTTCATAGGAGCCAAAGACCTCAGGGGT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ä
                                                                                                                                                                                                                                                                                                                                                                                                         Length 548;
                                                                                                                                                                                                                                                                                                                                    3 others
                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                         PAT
                                                                                                                                                                                                                                                                                                                                                                                                       Score 515.6; DB 5;
Pred. No. 2.3e-128;
1; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                    u
                                                                                                                                                                                                 1 (bases 1 to 548)
Yu.G. and Rosen.C.
Colon specific genes and proteins
Patent: US 5733748-A 6 31-MAR-1998;
                                                                                                                                                                                                                                                                                                                                  107
                                                                         5733748.
                                                                                                                                                                                                                                                                                                            /organism="unknown"
128 c 173 g
                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                 195745 548 bp DNA
Sequence 6 from patent US 5;
195745
195745.1 GI:3940215
                                                                                                                                                                                                                                                                                                                                                                                                         42.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 540; Conservative
                                                                                                                                                                                                                                                                                                . 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1026 tgtcgcgcct 1035
                                                                                                                                                                  Unknown.
Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTCGCGCCT 548
                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                  137 a
                                                                                                                                                  Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                source
                                                                       DEFINITION
                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                  BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AC023346/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          846
                                                                                                        VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  å
```

```
Direct Submission
Submitted (11-FEB-2000) Genome Sequencing Center, Washington
University School of Medicine, 4444 Forest Park Parkway, St. Louis,
MO 63108, USA
Homo sapiens
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Butheria; Primates; Catarrhini; Hominidae; Homo.

I (bases I to 178137)
Waterston, R. H.
                                                                                                                                                                        Center project name: H_NH0475023.

* NOTE: This is a 'working draft' sequence. It currently a consists of 53 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as * runs of N, but the exact sizes of the gaps are unknown. * This record will be updated with the finished sequence as soon as it is available and the accession number will * be preserved.
                                                                                                                                                                                                                                                                                                            length
bp in length
length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                         length
bp in length
length
                                                                                                                                                                                                                                                                                                                                                                                                                                  bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                            length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
op in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
bp in length
                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ď
                                                                                                                                                                                                                                                                                                          gap of unknown I contig of 1108 by app of unknown I contig of 1161 by app of unknown I contig of unknown I contig of 1600 by app of unknown I contig of 1292 by contig of 1292 by contig of 1292 by
                                                                                                                                                                                                                                                                                                                                                                                                                                             unknown
of 1589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unknown
of 1448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
of 1975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unknown
of 1899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
of 1695
                                                                                                                                                                                                                                                                                               contig of 1212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contig of 1386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of 1545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown
                                                               The sequence of Homo sapiens clone Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οŧ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contig
gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                             gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
```

g

ολ

q

ö

g

ò

36012

1151

36072 1091

1032 geeteteeteeteggaaacagaaceeteecacageacateetaeeeggaagaeeatee

35951 TTTGCTGGT 35943

q

HS219MRNA

RESULT

tttgctggt 1220

1212

셤 δ

g ò

ò

02-JUN-1995

PRI

```
Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 178137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1065 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           unknown length
of 12307 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig of 8846 bp in length
gap of unknown length
contig of 8501 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of 5398 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of 3574 bp in length
unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bp in length
                                                                                                                                                                                                                                                                                              bp in length
length
                                                                                                                                                                                                                                                                                                                                                                                                                   in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           lèngth
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in length
                            in length
                                                                                                                  bp in length
                                                                                                                                               bp in length
                                                                                                                                                                             bp in length
                                                                                                                                                                                                         bp in length
                                                                                                                                                                                                                                       bp in length
                                                                                                                                                                                                                                                                     in length
                                                                                                                                                                                                                                                                                                                             bp in length
                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                        length
bp in le
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bp in le
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                    tength
                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                       length
                                                                                                                                                                                          length
                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                   length
                                                                                                                                   length
                                                                                                                                                                 length
                                             ength
                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                         ä
                                                         pp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .2e-98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig of 5324 by
gap of unknown le
contig of 4962 by
gap of unknown le
contig of 5923 by
gap of unknown le
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                47960 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown
of 4814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          33.1%; Score 404.2;
97.9%; Pred. No. 2.2e
:ive 0; Mismatches
                                                                                                                                                                                           unknown of 2616 hunknown of 3256 h
                                                                                                                                                                                                                                                     unknown
of 2226
                                                                                                                                                                                                                                                                                 unknown
of 2875 h
                                                                                                                                                                                                                                                                                                               unknown
of 4797 l
                                                                                                                                                                                                                                                                                                                                             unknown
of 4717
                                                                                                                                                                                                                                                                                                                                                                         unknown
of 3233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             unknown
of 5144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of unknown contig of 9878
                                                                    unknown
of 2806 l
                                                                                                                                                              unknown
of 2493
                                                                                                                                                                                                                                                                                                                                                                                                                   3783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of 5303
                                                                                                                                                                                                                                                                                                                                                                                                                                                 of 5984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of 4874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unknown
                                                                                                                                                                                                                                                                                                                                                                                                       unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
                                                                                                                                   unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="RP11-475023"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig of
                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                      oĘ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig c
gap of c
contig c
                                                                                                                                                                                                                                                                                              gap of a gap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41468 9
                                                        contig
gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gap of
                                                                                                                                 gap of
contig
                                                                                                                                                                                                                                      contig
gap of
                                                                                                                                                               gap of
contig
                                                                                                                                                                                                         contig
gap of
                            contig
gap of
                                                                                                                                                                                             gap of
                                                                                                                                                                                                                                                                                 gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   138552: 0
147398: 0
147416: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       168259:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        134960:
                                                                                                                                                                                                                                                                                                                                                                                     83253:
83271:
87054:
                                                                                                                                                                                                                                                                                                                                                                                                                                 87072:
93056:
93074:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   113281:
118605:
118623:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          129544:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          134942:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                155917:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                155935:
                                                                                                                                                                                                            62041:
62059:
                                                                                                                                                                                                                                                       65333:
67559:
                                                                                                                                                                                                                                                                                               70452:
70470:
75267:
75285:
80002:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97948:
97966:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                123585:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                123603:
                          45573:
45591:
47919:
47937:
50743:
                                                                                                                                 54013:
56896:
                                                                                                    50761:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            103110:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      113263:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            129526:
                                                                                                                                                                 56914:
                                                                                                                                                                                             59425:
                                                                                                                                                                                                                                         65315:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40913 C
                                                                                                                                                                             59407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 420; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              155918
155936
168243
168260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    138535
138553
147399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97967
103111
103129
107943
107961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   113264
113282
118606
118624
123586
123604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          129545
134943
                                                                                                                                                                                                                                                                                                                                                                                                                                   87055
87073
93057
93075
97949
                                                                                                                                                                                                                                                                     65334
67560
67578
70453
70471
                                                                                                                                                                                                                                                                                                                                             75268
75286
80003
                                                                                                                                                                                                                                                                                                                                                                                         80021
83254
83272
                                                                                                                                                                                             59408
59426
62042
62060
65316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        134961
40850
43181
43189
45574
47920
47938
50762
53996
54014
56897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   46731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
```

```
/proteil_id="Caa60645.1"
/proteil_id="Caa60645.1"
/db_xref="G1:854082"
/db_xref="Suiss-PROT:998173"
/translation="MRLAGPLRIVVLVVSVGVTWIVVSILLGGPGSGFPRIQQLFTSP
FSSYTRAPRARKYTGCLPQPGPEBHLAFRVVSGAANVIGPKICLEDKMLMSSVKDNVG
RGLNIALVNGVSGELIEARAFDWMAGDVNDLLKFIRPLHEGTLVFVASYDDFATKMNE
                                                                                                                                                                                                                                                                                                                                                                Submitted (09-MAY-1995) D. Toniolo, Instituto di Genetica
Biochimica ed Evoluzionistica, CNR, Via Abbiategrasso 207, 27100
                                                                                                                                                                              l (bases 1 to 1606)
Bione, S., Tamanini, F., Maestrini, E., Tribioli, C., Poustka, A., Torri, G., Rivella, S. and Toniolo, D.
Transcriptional organization of a 450-kb region of the human
                                                                                                                                   Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia; Eutheria;
Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                          chromosome in Xq28 Proc. Natl. Acad. Sci. U.S.A. 90 (23), 10977-10981 (1993)
                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
1. 1606
/organism.*Homo sapiens"
/db_xref="taxon:9606"
/chromosome="x"
/call_line="fetal brain"
/rap="q28"
/map="q28"
/gene="2.19"
278. .970
/gene="2.19"
HS219MRNA 1606 bp mRNA
H.sapiens mRNA for 2.19 gene.
X87193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=1
                                                                                                                                                                                                                                                                                                         2 (bases 1 to 1606)
Toniolo,D.
                                                                    GI:854081
                                                                                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                             Pavia, ITALY
                                                                                                                             Homo sapiens
                                                                                      2.19 gene.
                                                                    x87193.1
                                                                                                                                                                                                                                                                                             94068527
                                                                                                           human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
               LOCUS
                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                    ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                                                                                                                                                                                               MEDLINE
                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                           TITLE
                                                                                                           SOURCE
```

g δ

ö

Fri

8 셤 ö a ò 셤 ò a Š g õ g à

```
/codon_start=2
/product="EF-7"
/protein_id="NaB51037.1"
/db_xref="G1:1872485"
/translation="TGQVMKKDSFDMYSGDPQLLLNFLTEIPDSTLVLVASYDDPGTK
MNDK.KTLFSNLGSSYAKQLGFRDSWVFVGAKDLKSKSPYEGFLKNNPETNKYDGWPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The cloning of a cDNA for novel genes expressed in human osteoblast Unpublished (1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (14-AUG-1996) to the DDBJ/EMBL/GenBank databases. Ikko Ohno, Institute for Molecular and Cellular Biology, Osaka University, Molecular Genetics; 1-3 Yamada-Oka, Suita, Osaka 565, Japan (E-mail:Kousaku@imcb.osaka-u.ac.jp, Tel:81-6-879-7992, Fax:81-6-877-1922)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   665
                                                                                                                                                                                                                                                                                                                                                                                                                345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          845
                                                                                                                                                                                                                                                                                                                                                                                                                                            ccagggaccaaaatgaacgatgaaagcaggaaactcttctctgacttggggagttcctac 725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens cancellous bone tissue_lib:3 end-directed library osteoblast cell_line:primary-cultured cDNA to mRNA, clone_lib:lambda ZAP clone:GS3786.
                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   846 ccaqaqctgctggagatggagggctgcatgcccccgaagccattttaggggtggctgtgg 904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia; Eutheria;
Primates; Catarrhin; Hominidae; Homo.
1 (bases 1 to 2475)
                                                                                                                                                                                                                                                                                                                                                                                    gtgaaattccttaaagaaattccgggggggtgcactggtgctggtggcctcctacgacgat
                                                                                                                                                                                                                                                                                                                                                                                                    CCAGGGACCAAAATGAACGACAAAATCAAGACGCTTTTCTCCCAACCTGGGAAGTTCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 (bases 1 to 2475)
Ohno, I., Hashimoto, J., Takaoka, K., Ochi, T., Okubo, K. and
Matsubara, K.
                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                      DB 12; Length 465;
                                                                 fibroblasts"
                                                                                                                                                                                                                                                                                                Indels
                                                                                               protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRI
complete cds.
                                                                                                                                                                                                                                                                                                81;
                                                                                                                                                                                                                                                                   18.8%; Score 229.4; DB 1.
llarity 77.4%; Pred. No. 2.9e-51;
Conservative 0; Mismatches 81.
                                                    /cell_line="NIH3T3"
/cell_type="ESa-Pbx1 induced
complement(117. .>465)
/note="similar to human 2.19
                                                                                                                                                                                                             ų
            musculus"
                     /strain="BALB/c"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens mRNA for GS3786, D87120 GI:150767
                                                                                                                                                                                                                9
                                                                                                                                                                                                               109
                                                                                                                                                                                              LLELEGCVPRKVM
129 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                             68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GS3786.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ohno, I
                                                                                                                                                                                                                                                                                                278;
                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                    909
                                                                                                                                                                                                                                                                                                                                                                                                                                            999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D87120
                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                   οχ
                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
ETRKLFSELGSRNAKELAFRDSWVFVGAKGVQNKSPFEQHVKNSKHSNKYEGCPEALE
MEGCIPRRSTAS"
                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         San
                                                                                                                                                                                                                                                                                                                                                                                                                                                         344 ctcgcccaccaaggagatccaggttaaaaagtacaagtgtggcctcatcaagccctgccc 403
                                                                                                                                                                                              415 CTCGGTGACTGCAGCGCCACGGCCAGGAAGTACAAGTGTGGCCTGCCCCAGCCGTGTCC 474
                                                                                                                                                                                                                         404 agccaactactttgcgtttaaaatctgcagtggggccgccaacgtcgtgggccctactat 463
                                                                                                                                                                                                                                                   475 TGAGGAGCACCTGGCCTTCCGCGTGGTCAGCGGGCCGCCAACGTCATTGGGCCCAAGAT 534
                                                                                                                                                                                                                                                                                  523
                                                                                                                                                                                                                                                                                                            594
                                                                                                                                                                                                                                                                                                                                         categecettggtgaatggaaceaegggagetgtgetgggaeaagaaggeatttgaeatgta 583
                                                                                                                                                                                                                                                                                                                                                               CATCGCCCTGGTGAACGGGGTCAGCGGCGCGAGCCCGGGCCCTTTGACATGTG 654
                                                                                                                                                                                                                                                                                                                                                                                                 ctetgacttggggagttcctacgcaaacaactgggcttccgggacagctgggtcttcat 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         California,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 (bases 1 to 465)
W.X. and Kamps, M.P.
E2a -PAz1 induces aberrant expression of tissue-specific and developmentally regulated genes when expressed in NIH 3T3
                                                                                                                                                                                                                                                                                                   .;
0
                                                                                                            Length 1606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chases 1 to 465)
Fu,X. and Kamps,M.P.
Fu,Ect Submission
Submitted (27-SEP-1996) Pathology, University
Diego, 9500 Gilman Drive, La Jolla, CA 92093,
Location/Qualifiers
1.465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ROD
                                                                                                         Score 247.8; DB 9;
Pred. No. 3.1e-56;
); Mismatches 182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mol. Cell. Biol. 17 (3), 1503-1512 (1997)
97184476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mRNA
partial cds
                                                  281
                                                     б
                                                  503
                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MMU72677 465 bp
Mus musculus EF-7 mRNA,
                                                                                                         20.3%;
66.2%;
                                    1588. .1593
521 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           U72677.1 GI:1872484
                                                                                                         Query Match 20.3
Best Local Similarity 66.2
Matches 357; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        broblasts
                                    polyA_signal
BASE COUNT 301
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 4
MMU72677/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                 464
                                                                                                                                                                                                                                                                                                                                        524
                                                                                                                                                                                                                                                                                                                                                                    595
                                                                                                                                                                                                                                                                                                                                                                                                                            655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           895
                                                                                                                                                                                                                                                                                                                                                                                                                                                         644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
```

g

g

õ

ð

```
join(3351. .3470,13327. .13364,13460. .13568,14118. .14335,
15007. .15165,15343. .15468,15834. .15927,16375. .16561,
16701. .16936,17041. .17117,17223. .17315,17413. .17503)
/gene="G6PD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone_lib="pim by Tom Vulliamy"
1.2011
/note="1-2011 bp replaces previous submission X55448,
1-20114 bp; 6 corrections made from X55448, including 8850
(delete T), 14575 (add C), 18788 (delete C), 19369 (delete G), 19389 (delete G), and 19480 (T changes to A); G6PD:
Glucose-6 phosphate Dehydrogenase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="SWISS-PROT:P11413"
/translation="MAEGVALSRTQVGGILREELFQGDAFHQSDTHIFIIMGASGDLA
KKKIYPTIWMLFROGLEPNTFTMQYRGSRTGAVADIRKQSBFFRATPERKLKLEBFF
ARNSYVAGQYDDAASYGLLFBHDALLGSGANRLFYLALPPTYVEATPREKLKLEBFF
ARNSYVAGQYDDAASYGLNSHMDALLGSGANRLFYLALPPTYVEATVRIHBSCMS
QIGMNRIYVERPREFGEDLSMHISSLEREDQIYRIDHYLGREMYONLWYLRFAN
RIFGPIWNRDNIACVILTFKEPFGTEGRGGYFDEFGIIRDVWQNHLLQMLCLVAMBKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ASTRINDUNDEKYKVLKCI SEVQANNYVLGOYVGNDGEGEATKOYLDDPTVPRGSTA
ATFAAVLLYVENERWDGVPFILRCGKALNERRAEVRLQFHDVAGDIFHQCKRNELVI
RVQPNEAVTKMMTKRPOMFRNEESEELDLTYGNRKNVKLPDAFERLILDVFCGSOM
HFVRSDELREAMRIFTPLLHQIELEKPRPIPYIYGSRGPTEADELMKRVGFGYEGTYK
WVNPHKL*
                                   Primates; Catarrhini, Hominidae; Homo.
1 (bases 1 to 52173)
2010.M., Mazzarella,R., Bione,S., Toniolo,D., Schlessinger,D.,
D'Urso,M. and Chen,E.Y.
Sequence and gene content of the RCP/GCP-G6PD region in human Xq28:
the first 52kb
                                                                                                                                                                                                                                                                                                                                                                                       Submitted (12-JAN-1994) Ellson Y Chen Dr., Advanced Center for Genetic Technology, Applied, Biosystems Division, Perkin Elmer Corp., 850 Lincoln Centre Drive, Foster City, CA, 94404, USA On Jan 26, 1994 this sequence version replaced 91:31540.
                                                                                                                                                                      Chen, E.Y., Cheng, A., Lee, A., Kuang, W.J., Hillier, L., Green, P., Schlessinger, D., Ciccodicola, A. and D'Urso, M. Sequence of human glucose-6-phosphate dehydrogenase cloned in plasmids and a yeast artificial chromosome denomics 10 (3), 792-800 (1991)
                 Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product-"glucose-6-phosphate dehydrogenase"
/protein_id="CAA39088.1"
/db_xref="G1:452269"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1. .52173
/organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="X"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /evidence=experimental
2252. .18112
/gene="G6PD"
3343. .3470
/gene="G6PD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone="Cosmid TV1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /citation=[2]
/number=2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /citation=[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /citation=[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /citation=[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            prim_transcript 2252. .18112 /gene="G6PD"
                                                                                                                                                                                                                                                                                                                        3 (bases 1 to 52173)
Chen, E.Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /gene="G6PD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /label=G6PD
2252. .2717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /map="q28"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /number=1
                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
                                                                                                                                                               Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
  ORGANISM
                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 exon
                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                          REFERENCE
                                                                                   AUTHORS
                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                         TITLE
                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                       /codon_start=1
/product="c(S3786"
/product="c(S3786"
/protein_id="baA1321.1"
/db_xxef="c(1:107674"
/translation="MRYAGAAKLVYAVAVFILTFYVISQVFEIKMDASLGNLFARSAL
JATARSTRPPRYKGJEKACPRKHFAFRMASGARNVGPRICLEDNUMSGYKNNVGR
GINVALANGKTGFUJTKYFDWMGGDVAPFIEFLEKALGDGTYLDGATYLNDGA
ARRLIADLGSTSITNLGFRDNWVFCGGKGIKTKSPFEQHIKNNKDTNKYEGWPEVVEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ctgggettccgggacagctgggtcttcataggagccaaagacctcaggggtaaaagccc 794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     333 TATAAGTGTGGGATCTCAAAAGCTTGCCCTGAGAAGCATTTTGCTTTTAAAATGGCAAGT 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ggggccgccaacgtcgtgggccctactatgtgctttgaagaccgcatgatcatgagtcct 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gtgctgggacagaaggcatttgacatgtactctggagatgttatgcacctagtgaaattc 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aaaatgaacgatgaaagcaggaaactcttctctgacttggggagttcctacgcaaaacaa 734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tacaagtgtggcctcatcaagccctgcccagccaactactttgcgtttaaaatctgcagt 434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSG6PDGEN 52173 bp DNA PRI 20-AUG-19 H.Sapiens G6PD gene for glucose-6-phosphate dehydrogenase. x55448 229527 X55448.1 G1:450527 2-19 protein; G6PD gene; glucose-6-phosphate dehydrogenase.human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cttaaagaaattccgggggggggctgctggtggtggctcctacgacgatccagggacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tttgagcagttcttaaagaacagcccagacacaaacaaatacgagggatggccagagctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         393 GGAGCAGCCAACGTGGGACCCAAAATCTGCCTGGAAGATAATGTTTTAATGAGTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gtgaaaaacaatgtgggcagaggcctaaacatcgccctggtgaatggaaccacgggagct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          573 CTGAAGGCCATACAAGATGGAACAATAGTTTTAATGGGGAACATACGATGATGGAGCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAACTCAATGATGAGGCACGGCGCTCATTGCTGATTTGGGGGAGCACATCTATTACTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 9; Length 2475;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       813 GTAGAAATGGAAGGATGCATCCCCCAGAAGGCAAGACTAATGGAAATGTAG 862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               855 ctggagatggaggctgcatgccccgaagccattttagggtggctgtgg 904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 216.4; DB 9; Length
Pred. No. 8.9e-48;
0; Mismatches 196; Indels
                                 /organism="Homo sapiens"
/db_xxef="taxon:9606"
/cell_line="primary-cultured"
/cell_type="osteoblast"
/clone="453786"
/clone="1ib="lambda ZAP"
/tissue_lib="3 end-directed library"
/tissue_type="cancellous bone"
168. .851
                                                                                                                                                                                                                                                                                                                                                                                                                 ų
                                                                                                                                                                                                                                                                                                                                                                                                                 757
                                                                                                                                                                                                                                                                                                                                                                                                                 527 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17.78;
63.08;
                                                                                                                                                                                                                                                                                                                                                                                           EGCIPOKOD"
a 380 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 63.0
Matches 334; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                 811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 6
HSG6PDGEN
                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 735
                                                                                                                                                                                                       CDS
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HUMFLNG6PD 219447 bp DNA PRI 17-MAY-1999 Homo sapiens chromosome X region from filamin (FLM) gene to glucose-6-phosphate dehydrogenase (G6PD) gene, complete cds/s. L44140 GI:1203968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 5.7%; Score 70; DB 9; Length 52173; Best Local Similarity 68.3%; Pred. No. 2.3e-08; Matches 97; Conservative 0; Mismatches 45; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73613. 36226

/gene="2-19"

/citation=[1]

/label=exon2

/number=2

37166. 37189

/gene="2-19"

/citation=[1]

/label=exon3
                                                                                                                                                                                                                                                                                                                                                                                                                   41546. .41630
/gene="2-19"
/citation=[1]
                                                                                                                                                                                                                                                                    /number=3
40439. .40562
/gene="2-19"
/citation=[1]
/label=exon4
                                                                                                                                                                                                                                                                                                                /number=4
40689. .40747
/gene="2-19"
/citation=[1]
                                                                                                                                                                                                                                                                                                                                                                                         /citation=[1]
                                                                                                                                                                                                                                                                                                                                                      /label-exon5
                                                                                                                                                                                                                                                                                                                                                                                                  /label-exon6
                                                                                                                                                                                                                                                                                                                                                               /number=5
      s1g_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 7
HUMFLNG6PD/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
                                                                                                                                                                                   exon
                                                                                                                                                                                                                                 exon
                                                                                                                                                                                                                                                                             exon
                                                                                                                                                                                                                                                                                                                          exon
                                                                                                                                                                                                                                                                                                                                                                       exon
                                                                                                                                                                                                                                                                                                                                                                                                                     exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
```

/rpt_family="Alu-J or Alu-S" /evidence=experimental 56325805 /rpt_family="Alu-Sq" /evidence=experimental 636317698 /rpt_family="likb repeatl" /evidence=experimental 63696633		/rpt_family="Alu-Sb0 or Alu-Sb1" /evidence-experimental complement(74267701) /rpt_family="Alu-J" /evidence-experimental // 8592 //rpt_family="Alu-Sx"	/evidence-experimental complement(8863. 9029) /rpt_family="Alu-J or Alu-S" /evidence-experimental complement(9031. 9317) /rpt_family="Alu-Sq"	complement(93189442) /rpt_family="Alu-J or Alu-S" /rot_dence=experimental 94869773 /rpt_family="Alu-J" /rot_family="Alu-J" /rpt_family="Alu-S" /rpt_family="Alu-Sp" /rpt_family="Alu-Sp" /rpt_family="Alu-Sp" /rpt_family="Alu-Sp" /rpt_family="Alu-Sp" /rpt_family="Alu-Sp"	/rpt_family="Alu-sq" /evidence=experimental 1027110367 /rpt_family="Alu-J" /evidence=experimental complement(1045510739)	/rpt_family="Alu-Sx" /evidence=experimental complement(107401086) /rpt_family="Alu-3 or Alu-S" /evidence=experimental complement(1086611156) /rpt_family="Alu-Sx"		complement(ino04,izio) /rpt_family="Alu-Sb0 or Alu-Sb1" /evidence=experimental complement(12195,12482) /rpt_family="Alu-J or Alu-S" /evidence=experimental complement(12668,12945)	/rpt_ranily=*Alu-0 or Alu-5. /evidence=experimental complement(1836018648) /rpt_family=*Alu-58b0" /evidence=experimental complement(1898419488) /gene=*FLN"
repeat_unit repeat_unit repeat_unit	repeat_unit	repeat_unit repeat_unit	repeat_unit repeat_unit	repeat_unit repeat_unit repeat_unit	repeat_unit	repeat_unit	repeat_unit repeat_region	repeat_unit repeat_unit repeat_unit	repeat_unit exon
KEYWORDS 1A gene; 2_19 gene; ABP-280 gene; DNL1L gene; DNase I-like protein gene; EMD gene; FLN gene; G4.5 gene; G4.8 gene; G5PD gene; GDI gene; GX gene; P3 gene; Q4.5 gene; STA gene; XAP-1 gene; XAP-2 gene; XAP-4 gene; XAP-5 gene; XAP-7 gene; actin-binding protein; emerin; emery-dreyfuss syndrome; filamin; glucose-6-phosphate dehydrogenase. SOURCE human. ORGANISM Homo saplens Finkarvota: Metazoa; Chordata; Craniata; Vertebrata; Mammalia;	Eutheria; Primates; Catarrhini; Hominidae; Homo. REFERENCE 1 (bases 1 to 219447) AUTHORS Chen.E.Y., Zollo,M., Mazzarella,R.A., Ciccodicola,A., Chen,CN., Zuo,L., Heiner,C., Burough,F.W., Ripetto,M., Schléssinger,D. and D'Urso,M. TITLE Long-range sequence analysis in Xq28: thirteen known and six	AL NE	Applied Biosystems Division of Perlin Elmer Corp., 850 Lincoln Center Drive, Foster City, CA 94404 USA and David Schlessinger, Department of Molecular Microbiology and Center for Genetics in	Medicine Machige Medicine, Medicine, Machige Mashington University School of Medicine, St. Louis MO 63110 USA e-mail: ellson@genseq.apldbio.com and davids@genetics.wustl.edu Note: Gene predictions were accomplished with runs of Grail versions 1.1 and 1.2, coupled with fasta and blastx comparisons to genbank on-redundant peptide libraries. Repeat analysis was accomplished	FEATURES Location/Qualifiers source 1219447 /organism="Homo sapiens" /db_xref="taxon:9606" /man="X"		repeat_unit /pr_family="Alu-J or Alu-S" /repeat_unit 10231313 /rept_family="Alu-Sx" /evidence=experimental repeat_unit complement(14461336) /rept_family="Alu-J"	a	repeat_unit 49125046 /rpt_family="Alu-J or Alu-S" /rot_dence=experimental repeat_unit 5047533 /rpt_family="Alu-Sb0 or Alu-Sb1" /evidence=experimental repeat_unit 53465628

Craniata; Vertebrata; Mammalia;

Catarrhin; Hominidae; Homo

Eukaryota; Metazoa; Chordata; Eutheria; Primates; Catarrhini 1 (bases 1 to 132319) Sulston, J.E. and Waterston, R.

Homo sapiens

ORGANISM

SOURCE

VERSION KEYWORDS

AC006364.3 GI:4753253

gene

CDS

```
/ULTAINSTANDING TITLOUS TO STANDING TO THE TOTAL TITLOUS TO STANDING TO STANDI
                                                                                                                                     complement(join(19301. .19488,19814 .20017,20101. .20319, 20483. .20659,21361. .21493,22033. .22148,22336. .22473, 22633. .22899,23005. .23127,23224. .23376,23453. .22899,23005. .23127,23224. .23376,23453. .22899,23006. .24127,244603. .24493,244603. .24493,24463. .24743, 24833. .24935,25068. .25163,25277. .25524,27701. .27724, 29684. .28073,28649. .28805,28995. .29018,29434. .29074, 29666. .29856,29934. .30056,30182,30440. .31037,31758. .32020,32120. .32277,34729. .32598,32692. .32783,34472. .34615,34709. .34822,34673. .36673,36757. .36919,37011. .37088,37181. .37299,37846. .37993,38090. .38187,38291. .38539,41319. .41691))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ETRGAGTGGLGLAVEGPSEARMSCMDNKDGSCSVEY IPYEAGTYSLNVTYGGHQVPGS
PFKVPVHDVTDASKVKCSGPGLSPGMVRANLPOSFQVDTSKAGVAPLQVKVQGPKGLV
EPVDVVDNADGTQTVNYVPSREGPYSISVLYGDEEVPRSPFKVKVLPTHDASKVKASG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PGIEGGGVFREATTEFSVDARALTQTGGPHVKARVANDSGNLTETYVQDRGDGMYKVE
YTPYEEGLHSVDVTYDGSPVPSSPFQVPVTEGCDPSRVRVHGPGIQSGTTNKPNKFTV
                                                     complement(18984. .45006)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /protein_id="AAA92644.1"
/db_xref="GI:1203969"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence=experimental/product="filamin"
/evidence=experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /codon_start=1
```

Direct Submission Submitted (11-0AN-1999) Genome Sequencing Center, Washington University School of Medicine, 4444 Forest Park Parkway, St. Louis, MO 63108, USA

2 (bases 1 to 132319) Ryan, E., Bauer, C., Tucci, S. and Spalding, L. The sequence of Homo sapiens BAC clone GSI-146J4

3 (bases 1 to 132319) Waterston, R.H.

Unpublished

JOURNAL REFERENCE

TITLE JOURNAL

AUTHORS

Toward a complete human genome sequence genome Res. 8 (11), 1097-1108 (1998)

99063792

MEDLINE

JOURNAL

TITLE

AUTHORS

REFERENCE

AUTHORS

REFERENCE

Direct Submission Submitted (05-MAY-1999) Genome Sequencing Center, Washington University School of Medicine, 4444 Forest Park Parkway, St. Louis,

(bases 1 to 132319)

USA

MO 63108,

JOURNAL

REFERENCE AUTHORS

JOURNAL

4 (bases 1 to 132319) Waterston, R.H.

REFERENCE AUTHORS

```
666 ccagggaccaaaatgaacgatgaaagcaggaaactcttctctgacttggggagttcctac 725
                                       ó
                                    45; Indels
   5.7%;
Query Match 5.7%
Best Local Similarity 68.3%
Matches 97, Conservative
```

Db 177752 CCATGCTGCAGGATGAATGAAGAGACCAGAAAGCTCTTCAGTGAGCTGGGCAGCAGGAAC 177693 726 gcaaaacaactgggcttccgggacagctgggtcttcataggagccaaagacctcaggggt 785

786 aaaagccctttgagcagttct 807

Db 177632 AAGAGCCCCTTTGAGCAGGTAT 177611

AC006364 132319 bp DNA PRI 21-DEC-1999 Homo sapiens BAC clone GS1-146J4 from 7q31.1-31.3, complete sequence. AC006364 æ DEFINITION RESULT (ACO06364 LOCUS ACCESSION

```
Web site: http://genome.wustl.edu/gsc
Contact: sapiens@watson.wustl.edu
                                              Center project name: H_GS146J04
                                                                                                                                                                                                                                                                                                                                                                                                                                                MAPPING INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                  restriction digest.
                                                                                                                                                                                                                                                                                                                                                                                                              Db 177692 GCCAAGGACTGCCGGACAGCTGGGTGTTGTCGGGGCCAAGGGTGTGCAGAAC 177633
                                                                                                                                                                                                 Score 70; DB 40;
Pred. No. 2.3e-08;
0; Mismatches 45;
```

```
The sequence of this clone was established as part of a mapping and sequencing collaboration between the NHGRI Chromosome 7 Mapping Project (Eric D. Green, Director), John D. McPherson in the Department of Genetics (Washington University), and the Washington University Genome Sequencing Center. For additional information about the map position of this sequence, see http://www.nhgri.nih.gov, or see http://genome.wustl.edu/gsc
NOTICE: This sequence may not represent the entire insert of this clone. It may be shorter because we only sequence overlapping clone sections once, or longer because we provide a small overlap between neighboring data submissions.
                                                                                                                                                                                                                                                    This sequence was finished as follows unless otherwise noted: all regions were double stranded, sequenced with an alternate chemistry, or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats, all regions were covered by sequence from more than one subclone; and the assembly was confirmed by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE INFORMATION:
```

This clone is from the first BAC library from Genome Systems, Inc. (http://www.genomesystems.com).

Waltsburn, Cubmission
Submitted (21-DEC-1999) Department of Genetics, Washington
Submitted (21-DEC-1999) Department of Genetics, Washington
University, 4444 Forest Park Avenue, St. Louis, Missouri 63108, USA
On May 5, 1999 this sequence version replaced gi:4337266.

Center code: WUGSC

Direct Submission Submitted (11-SEP-1999) Department of Genetics, Washington University, 4444 Forest Park Avenue, St. Louis, Missouri 63108, USA 6 (bases 1 to 132319)

Waterston, R.

AUTHORS REFERENCE

JOURNAL

FEATURES

```
note="similar to Mus musculus EST AA986059 (NID:93167448)
                                                                                                                                                                                                                                                                                                                                                                   note="similar to Mus musculus EST AA986059 (NID:93167448)
          11766. .12114
/gene="wUGSC:H_GS146J04.1"
/note="similar to BST AA897626 (NID:g3034240) oj71h05.s1"
11963. .1319="MER2_type"
/rpt_family="MER2_type"
/rpt_family="(CA)n"
13228. .13025
/rpt_family="L2"
/rpt_family="L2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23310 AGCATTTTGCTTTTAAAATGGCAAGTGGAGCAACCAACGTGGTGGACCCAAAATCTGCC 23369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         349 ccaccaaggagatccaggttaaaaagtacaagtgtggcctcatcaagccctgcccagcca 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             409 actactttgcgtttaaaatctgcagtggggccgccaacgtcgtgggccctactatgtgct 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-DEC-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 132319;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ouery Match 4.6%; Score 56.6; DB 40 Best Local Similarity 65.4%; Pred. No. 9.4e-05; Matches 83; Conservative 0; Mismatches 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /rpt_family="Alu"
21910. .22000
/rpt_family="MERI_type"
2243. .22572
/gene="WUGSC:H_GS146J04.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /rpt_family="AT_rich"
23259. .23353
/gene="WUGSC:H_GS146J04.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           166494 7218 bp DNA
Sequence 14 from patent US 5670367.
166494
                                                                                                                                                                                                                                                                                                              14831. .14908
/rpt_family="L1"
5668. .15772
/gene="WUGSC:H_GS146J04.1"
                                                                                                                                                                                                                                                                                                                                                                                                                       /rpt_family="Alu"
16710. 17046
1720_family="MER2_type"
17337. 17695
/rpt_family="Malk"
17730. 17887
/rpt_family="MeR1_type"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /rpt_family="MER2_type"
20250. 20288
20350. 20288
20375. .20551
/rpt_family="AT_rich"
/rpt_family="L1"
                                                                                                                                                                                                                   rpt_family="(TA)n"
13977. .14293
                                                                                                                                                                                 /rpt_family="MIR"
13926. .13948
                                                                                                                                                                                                                                            'rpt_family="L1"
4556, .14624
                                                                                                                                                                                                                                                                                     /rpt_family="L2"
14831. .14908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .20941
                                                                                                                                                                                                                                                                                                                                                                                                            .16363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7984. .18221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23073. .23094
                                                                                                                                                                                                                                                                                                                                                                                          uc72e08.yl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           uc72e08.yl
EGCIPQKQD'
                                                                                                                                                                                                                                                                                                                                                                                                            6199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23370 TGGAAGA 23376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      469 ttgaaga 475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                   repeat_region
                                                                                                 repeat_region
                                                                                                                                     repeat_region
                                                                                                                                                                     repeat_region
                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                            misc_feature
                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 9
166494/c
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11713. .44221
/gene="WDGSC:H_GS146J04.1"
/gene="WDGSC:H_GS146J04.1"
join(1713. .11725,15668. .15772,22543. .22572,23259. .23382,
join(44. .30552.31735. .31785,34555. .34639,43413. .43539,
44132. .44221)
/gene="WDGSC:H_GS146J04.1"
/note="WDGSC:H_GS146J04.1"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /rpt_family="12".
11660. 12114
1060. 12114
1065. 12114
11665. 11725
1066="similar to Mus musculus EST AA986059 (NID:93167448)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /traislation="mrvagaaklyvavayelltfyvisqyfeikmdaslgnlfarsal
DTAARSTKPPRYKGGISKAPEKHEPREMASGAANVGERLGLBDNYMASGYKNNVGR
DTAARSTKPPRYKGGISKAPDWAGGYVAPFIEFLKALODGTYLMGTVDDGATKLNDB
ARKLIADLGSSISTINGFRDNWYFGGGKGIKTKSPFEQHIKNNKDTNKYEGWPEVVEM
                     Haplotypes: two
VECTOR: pBeloBAC
Selection: chloramphenicol
NEIGHBORING SEQUENCE INFORMATION:
The actual start of this clone is at base position 1 of GS1-146J4;
actual end is at 132319 of GS1-146J4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="match to EST H18852 (NID:9885092) ym45f1l.rl"
10754. 11029
/note="match to EST AA328782 (NID:91981047)"
11459. 11522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7983. 8089

17083. 8089

8111. 8253

7Ppt_family="Retroviral"

10366. 10769

10401. 10850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2512, .2783
/rpt_family="MER4-group?"
3328, .3362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /protein_id="AAD54511.1"
/db_xref="G1:5870323"
                                                                                                                                                       /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="7"
/map="7q31.1-31.3"
/clone="GS1-14614"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /rpt_family="POLY_G"
3880. .4030
/rpt_family="MER1_type"
4108. .4397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /rpt_family="Retroviral"
6413, .6446
/rpt_family="(CA)n"
7359. .7395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /rpt_family="AT_rich"
7396. .7704
                                                                                                                                                                                                                                                                                                                                                                                                                                                  rpt_family="(TGGA)n"
                                                                                                                                                                                                                                                                                                                                          /rpt_family="L1"
2118. .2474
/rpt_family="MaLR"
2512. .2783
                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                         522. .601
/rpt_family="L2"
1216. .1506
/rpt_family="Alu"
1514. .1858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'product="GS3786"
     Cell line: lymphoblastoid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1c72e08.y1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDS
```

;

us-09-186-342-1.rge

```
Gibbs, R.
                                                                                                                                                                                   TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                         AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eukaryota; Primates; Catarrhini; Hominidae; Homo.

E I (bases l. 10.3502)

E Muzny, D.M., Adams, C., Bailey, M., Barbaria, J., Blankenburg, K., Bodcta, B., Bouck, J., Bovie, S., Brooks, A., Buhay, C., Bunac, C., Burtett, C., Burrows, J., Carter, M., Chen, Z., Cox, C., David, R., Delgado, O., Deshazoo, D., Ding, Y., Domah-Rashid, N., Dugan-Rocha, S., Durbin, K.J., Fernandez, C., Ferraguto, D., Forcum-Tansey, J., Frantz, P., Ganesh, R., Gorrell, J.L., Guevara, W., Harris, K., Hernandez, J., Hodgson, A., Hogues, M., Holloway, C., Hosak, H., Jackson, L.E., Jackson, L., Jia, Y., Jones, M., Kelly, S., Kondejewski, N., Kogn, Y., Kovar, C., Leal, B., Li, Z., Lichtarge, O., Liu, J., Liu, W., Logan, O., Lozado, R., Morgan, M., Lucler, R., Martin, R., Martinez, C., McLeod, M.P., Mei, G., Morgan, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                         ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACO16137 35052 bp DNA HTG 19-FEB-2000
Homo sapiens clone RP11-90809, *** SEQUENCING IN PROGRESS ***, 30
unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gacgatccagggaccaaaatgaacgatgaaagcaggaaactcttctctgacttggggagt 719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cacctagtgaaattccttaaagaaattccgggggggtgcactggtgctggtggcctcctac 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720 tectaegeaaacaactgggetteegggacagetgggtetteataggageeaaagaeete 779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480 atgatcatgagtcctgtgaaaaacaatgtgggcagaggcctaaacatcgccctggtgaat 539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540 ggaaccacgggagctgtgctgggacagaaggcatttgacatgtactctggagatgttatg 599
                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aggggtaaaagcccctttgagcagttcttaaagaacagcccagacacaaatacgag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1087 RRRRRRRRRRRRRRRRRRRRRRRRATCGCAAGCTCCACCTGCACCTGCAAGCTCGG 1033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840 ggatggccagagctgctggagatggaggctgcatgcccccgaagccattttagg 894
                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                            DB 5; Length 7218;
                                                                                                                                                                                                                                                                                  368 others
                                                                                                                                                                                                                                                                                                                                                                          ch 3.8%; Score 46.6; DB 5; Length 7
1 Similarity 6.0%; Pred. No. 0.048;
25; Conservative 213; Mismatches 177; Indels
                                                                                                           1 (bases 1 to 7218)
Dorner,F., Scheffilnger,F. and Falkner,F.Gunter.
Combinant fowlpox virus
Patent: US 5670367-A 14 23-SEP-1997;
                                                                                                                                                                                                                                                                                  ىد
                                                                                                                                                                                                                                                                                  1929
                                                                                                                                                                                                          Location/Qualiflers
                                                                                                                                                                                                                                                         organism-"unknown"
                                                                                                                                                                                                                                                                                1491 c 1486 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AC016137.2 GI:7007688
HTG; HTGS_PHASE1.
GI:2724471
                                                                                       Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 25; Conserv
                                                                                                                                                                                                                                                                                  1944 a
166494.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AC016137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human.
                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 10
AC016137/c
LOCUS
                                                                ORGANISM
                                                                                                                                                                                                                                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      099
                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
                      KEYWORDS
                                                                                                                                                                                                                 FEATURES
```

g

ò

a

õ g

ò

ò g 셤 ò

õ

```
Direct Submission
Submitted (23-MOV-1999) Human Genome Sequencing Center, Department
Of Molecular and Human Genetics, Baylor College of Medicine, One
Baylor Plaza, Houston, TX 77030, USA
On Feb 19, 2000 this sequence version replaced 91:6466486.
Morris, S., Nash, S., Nelson, A., Nguyen, R., Nguyen, N., Nguyen, S., Oswal, G., Parish, B., Paxton, S., Payton, B., Perez, L., Pu, L.L., Oswal, G., Reiter, D., Rives, M., Samuel, S., Say, J., Scherer, S., Shan, E., Shen, H., Simon, M., Sparks, A., Stamps, A., Sucgang, R., Tabor, P., Taylor, T., Vasquez, L., Vinson, R., Vo, Q., Wahbah, M., Watlington, S., Weinstock, G., Weinstock, I.R., Williamson, A., Woley, K., Wren, J., Wrensford, G., Yu, W., Zhou, X., Nelson, D. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NOTE: This is a 'working draft' sequence. It currently consists of 30 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig of 784 bp in length gap of unknown length contig of 794 bp in length contig of 794 bp in length gap of unknown length contig of 836 bp in length gap of unknown length contig of 833 bp in length gap of unknown length contig of 798 bp in length gap of unknown length contig of 668 bp in length gap of unknown length contig of 692 bp in length gap of unknown length contig of 692 bp in length gap of unknown length contig of 1252 bp in length gap of unknown length contig of 1252 bp in length gap of unknown length gap of unknown length gap of unknown length contig of 1352 bp in length gap of unknown length gap of unknown length contig of 1314 bp in length gap of unknown length contig of 1363 bp in length gap of unknown length contig of 803 bp in length gap of unknown length contig of 803 bp in length gap of unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           unknown length
of 1096 bp in length
unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             unknown length
of 1252 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of 1314 bp in length
unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             unknown length
of 1063 bp in length
unknown length
                                                                                                                                                                                                                                                                                                                                       ...--- Genome Center
                                                                                                                                                           Direct Submission
Unpublished
2 (bases 1 to 35052)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12103:
12123:
13186:
13206:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4119:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11280:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7453:8674:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5625
                                                                                                                                                                                                                     Worley, K.C.
```

ö

Gaps

; 0

167 others

```
Direct Submission

Submitted (03-FEB--7000) Sanger Centre, Hinxton, Cambridgeshire, CB10 15A, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk

On Feb 16, 2000 this sequence version replaced gi:6911686.

IMPORTANIT This sequence is unfinished and does not necessarily represent the correct sequence. Work on the sequence is in progress and the release of this data is based on the understanding that the sequence may change as work continues. The sequence may be contaminated with foreign sequence from E.coli, yeast, vector, phage etc. Order of segments is not known; 800 n's separate segments. Contig_ID: 01053 Length: 50802bp

Contig_ID: 01189 Length: 155bp

Contig_ID: 02238 Length: 1155bp

Contig_ID: 02238 Length: 1155bp

Contig_ID: 02238 Length: 1105bp

Contig_ID: 02238 Length: 1105bp

Contig_ID: 02238 Length: 1105bp

Contig_ID: 04132 Length: 1039bp

Contig_ID: 04131 Length: 1103bp

Contig_ID: 04131 Length: 1103bp
    Direct Submission
Submitted (10-SEP-1998) Dept. of Experimental Hematology, Beijing
Institute of Radiation Medcine, 27 Taiping RD, Beijing 100850,
P.R.China
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSJ963E22 173823 bp DNA HTG 03-FEB-2000 Homo sapiens chromosome 20 clone RP5-963E22, *** SEQUENCING IN PROGRESS ***, 16 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                    538 atggaaccacgggagctgtgctgggacagaaggcatttgacatgtactctggagatgtta 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    598 tgcacctagtgaaattccttaaagaaattccgggggggtgcactggtgctggtggcctcct 657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          658 acgacgatccagggaccaaaatgaacgatgaaagcaggaaactcttetetgacttgggga 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
1. (bases 1 to 173823)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 718 gttcctacgcaaaacaactgggcttccgggacagctgggtcttcataggagcc 770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        725 SYKSMAAMCCMRSCYTWAWKRWYYTTKGSMAARSMMYTTKKKKYMWKKTYSSY 777
                                                                                                                                                                                                                                                                                      Query Match 3.5%; Score 43; DB 51; Length 1302; Best Local Similarity 12.0%; Pred. No. 0.45; Matches 28; Conservative 115; Mismatches 90; Indels
                                                                                                                                                                                                                 لد
                                                                         Location/Qualifiers
1. 1302
(organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="HQ0688"
/tissue_type="liver"
                                                                                                                                                                                                                 415
                                                                                                                                                                                                               179 g
                                                                                                                                                                                          /dev_stage="fetus"
217 c 179 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AL096828.18 GI:6982696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HTG; HTGS_PHASE1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 12
HSJ963E22/c
                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                               BASE COUNT
ORIGIN
    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Yu,Y., Zhang,C., Luo,L., Ouyang,S., Zhang,S., Li,W., Wu,J.,
Zhou,S., Liu,M. and He,F.
Functional prediction of the coding sequences of 50 new genes
deduced by analysis of cDNA clones from human fetal liver
Unpublished
2 (bases 1 to 1302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Yu,Y., Zhang,C., Luo,L., Ouyang,S., Zhang,S., Li,W., Wu,J.,
Zhou,S., Liu,M. and He,F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3.6%; Score 43.4; DB 57; Length 35052; 79.0%; Pred. No. 0.34; tive 0; Mismatches 16; Indels 1;
contig of 1302 bp in length gap of unknown length contig of 1190 bp in length gap of unknown length contig of 1190 bp in length gap of unknown length contig of 1230 bp in length gap of unknown length contig of 162 bp in length gap of unknown length contig of 865 bp in length gap of unknown length gap of unknown length contig of 480 bp in length gap of unknown length contig of 1144 bp in length gap of unknown length contig of 1144 bp in length gap of unknown length contig of 1144 bp in length gap of unknown length gap of unknown length contig of 1531 bp in length gap of unknown length gap of unknown length contig of 1531 bp in length gap of unknown length contig of 2376 bp in length gap of unknown length contig of 2376 bp in length gap of unknown length contig of 2139 bp in length gap of unknown length contig of 2139 bp in length gap of unknown length contig of 2139 bp in length gap of unknown length gap of unknown length contig of 2135 bp in length gap of unknown length gap of unknown length contig of 2136 bp in length gap of unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                683 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ų
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1. .35052
/organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone="RP11-90809"
9047 c 7874 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AF090946 1302 bp mRNA
HOMO sapiens clone HQ0688.
AF090946 1 GI:6690254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16306 TTT-ATCGCCCTGGTGAATGG 16287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               521 aaacatcgccctggtgaatgg 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31505:
31525:
32876:
                                                         15413:
                                                                                                                  17853:
17873:
                                                                                                                                                                                                                                                   20440:
21251:
21271:
                                                                                                                                                                                                                                                                                                                             22435:
23901:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                29346:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               32896:
                                                                                                                                                                                                                                   20420:
                                                                                                                                                                                                                                                                                                                                                                                     25452:
25472:
26950:
                                                                                                                                                                                                                                                                                                                                                                                                                                          26970:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               35052:
                                                                                                                                                                            19920:
                                                                                                                                                                                                                                                                                                                                                                    23921:
                                                                                                                                                         19035
                                                                                                                                                                                                                 19940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 79.09
Matches 64; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29367
31506
31526
32877
32897
                                      14529
15394
115414
116604
116624
117854
117874
119036
119056
                                                                                                                                                                                                                                                     20421
20441
21252
21252
                                                                                                                                                                                                                                                                                                                             22416
22436
23902
                                                                                                                                                                                                                                                                                                                                                                                       23922
25453
25473
                                                                                                                                                                                                                                                                                                                                                                                                                                              26951
26971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FLI_CDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 11
AF090946
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
```

δ

11-FEB-2000 SEQUENCING IN

**

```
Submitted (10-FEB-2000) Sanger Centre, Hinxton, Cambridgeshire, CB10 18A, Wr. E-mail enquiries: humquery@anger.ac.uk Clone requests: clonerequest@anger.ac.uk humquery@anger.ac.uk Clone requests: clonerequest@anger.ac.uk

On Feb 16, 2000 this sequence version replaced gi:6977930.

IMPORTANT: This sequence ls unfinished and does not necessarily represent the correct sequence. Work on the sequence is in progress and the release of this data is based on the understanding that the sequence may change as work continues. The sequence may be contaminated with foreign sequence from E.coli, yeast, vector, phage etc. Order of segments is not known; 800 n's separate segments. Contig_ID: 00059 Length: 1123bp Contig_ID: 01376 Length: 1123bp Contig_ID: 01376 Length: 1132bp Contig_ID: 01376 Length: 1132bp Contig_ID: 03003 Length: 1132bp Contig_ID: 03003 Length: 1552bp Contig_ID: 03003 Length: 1552bp Contig_ID: 03003 Length: 1564bp Contig_ID: 03004 Length: 1564bp Contig_ID: 03005 Length: 48632bp Contig_ID: 03005 Length: 48632bp Contig_ID: 03005 Length: 48632bp Contig_ID: 03005 Length: 48034pp.

* NOTE: This is a 'working draft' sequence record is anbitrary. Gaps between the contigs are represented as 'ris not known and their order in this sequence as arbitrary. Gaps between the contigs are represented as 'ris record will be updated with the finished sequence 'ris' soon as it is available and the accession number will 's be preserved.'
                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
Sukaryota, Metazoa, Chordata, Craniata, Vertebrata, Mammalia,
Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7593 8392; gap of 800 bp 8393 9515; contig of 1123 bp in length 9515; gap of 800 bp 10316 58947; contig of 48632 bp in length 58948 59747; gap of 800 bp 800 bp 59748 74811; contig of 15064 bp in length 75611; gap of 800 bp 75611; gap of 48034 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 123645: contig of 48034 bp in length. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              136 215; contig of 1315 bp in length 3136 215; app of 800 bp 216 3239; contig of 1123 bp in length 3239 4038; gap of 800 bp 800 bp 5590; contig of 1552 bp in length 5591 6395; gap of 800 bp 6395; gap of 800 bp 6395; contig of 1202 bp in length 6391
                                                                                                                                                   HSJ697K14 123645 bp DNA HTG
Homo sapiens chromosome 20 clone RP4-697K14,
PROGRESS ***, 8 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone_lib="RPCI-4"
35331 c 34990 g 23221 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                     HTG; HTGS_PHASE1; HTGS_DRAFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="RP4-697K14"
                                                                                                                                                                                                                                                                                    AL121829.8 GI:6983416
                                                                                                                                               HSJ697K14 123645 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24500 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sehra, H.
                                                                             RESULT 13
HSJ697K14/C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                   LOCUS
                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ĥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               71749 TCTGTGGCGATCATGCTTGGCTGATGCTGAGTTCCAGAAAAGGAGCCGGAATGACCTGC 71690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1009 caggiccitgcacgcigitgtcgcgccictcciccggaaacagaacccicccacagcac 1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
Contig_ID: 04138 Length: 1158bp
Contig_ID: 04139 Length: 1427bp
Contig_ID: 0416 Length: 928bp
Contig_ID: 04214 Length: 3772bp.
* NOTE: This is a 'working draft' sequence. It currently
* consists of 16 contigs. The true order of the pieces
* is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 33; Length 173823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               149198 149997; gap of 100 bp 149998 151036; contig of 1039 bp in length 151037 151836; contig of 1039 bp in length 151037 151836; contig of 1039 bp in length 153025 153025; contig of 1038 bp in length 155026 155028; cap of 800 bp 155829 155986; contig of 1158 bp in length 155829 155986; contig of 1158 bp in length 155927 155213; contig of 1427 bp in length 159214 160013; gap of 800 bp 157186; contig of 1427 bp in length 159214 160013; gap of 800 bp 1500 bp 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone_lib="RPCI-5"
44243 c 44350 g 35714 t 12017 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 43; DB 33; Length 17
Pred. No. 0.43;
); Mismatches 100; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100 bp
50802 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        127104 127903: gap of 800 bp. 127904 141008: contig of 13105 bp in length 141009 141808: gap of 800 bp. 141809 141840: contig of 1832 bp in length 143641 144440: gap of 800 bp. 144441 149197: contig of 4757 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              139: gap of 800 bp 11 length 124798: contig of 58359 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        800 bp
f 1175 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                    1315 2114; gap of 800 bp
2115 12062: contig of 9948 bp in length
12063: gap of 800 bp
12863 63664: contig of 50802 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         124799 125598: gap of 800 bp 127103: contig of 1505 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16952 170051; gap of 800 bp 170052 173823; contig of 3772 bp in length. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                     1314: contig of 1314 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1069 atcctacccggaagaccagcctcagagggtccttc 1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62: gap of 8 63664: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone="RP5-963E22"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    127104 127903: gap of 141008: conti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63665 64464; gap of
64465 65639; cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  114; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              65640 66439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
```

ö Gaps Length 123645; ó Indels Score 41.4; DB 33; Pred. No. 1.2; 0; Mismatches 136; Query Match 3.4%; Best Local Similarity 47.5%; Matches 123; Conservative

Ω

 Q_{Y} qq ŏ g δ QQ

ŏ

```
is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                               457.

4536 6535; gap of 800 cr

7646 8445; gap of 800 bp

846 18733; contig of 1110 bp in 1eus-

7646 8445; gap of 800 bp

18734 19533; gap of 800 bp

* 19534 83674; contig of 64141 bp in length

83675 84444; gap of 800 bp

* 475 87183; contig of 2709 bp in length

* 670 bp 17789; contig of 2709 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                               84479
8144 87983; coulty of 2.029 bp in length
87984 101772; contig of 13789 bp in length
101773 102572; gap of 800 bp
102573 108510; contig of 5938 bp in length
102511 109310; gap of 800 bp
111837 112636; gap of 800 bp
113885 114684; gap of 800 bp
113885 114684; gap of 800 bp
114685 116501; contig of 1248 bp in length
11652 17061; gap of 800 bp
11652 120999; contig of 4135 bp in length
11678 12038 13281; contig of 800 bp
11878 12010 129899; gap of 800 bp
118742 141871; contig of 1033 bp in length
113283 13281; contig of 103 bp in length
113442 14471; gap of 800 bp
114872 144501; gap of 800 bp
114872 144501; gap of 800 bp
114695 146501; gap of 800 bp
114696 146895; contig of 1059 bp in length
114696 146895; contig of 1059 bp in length
114696 146895; gap of 900 bp
114696 146895; contig of 1050 bp
114696 146895; gap of 1869 bp in length
114696 146895; contig of 1050 bp
114696 146895; contig of 1050 bp
114696 146895; gap of 1869 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                150785 150784: contig of 3889 bp in length 150785 151544: gap of 800 bp 154758 15557; contig of 3173 bp in length 154758 15557; contig of 3173 bp in length 155558 168913: contig of 13356 bp in length 1669713: gap of 800 bp 1669713; gap of 800 bp in length 1669713: gap of 1526 bp in length
                                                                                                                                                                                        contry of 1216 bp in length of 800 bp contig of 1216 bp in length of 1110 bp in length
                                                                                                                                                                            3719: contig of 3719 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           171240 172039: gap of
172040 181362: contig of
                                                                                                                                                                                                 3720 4519: gap of
4520 5735: col
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission

Submitted (03-FEB-2000) Sanger Centre, Hinxton, Cambridgeshire,
CB10 15A, UK. E-mail enquiries: humquery@sanger.ac.uK Clone
requests: clonerequest@sanger.ac.uk
On Feb 16, 2000 this sequence version replaced gi:6911627.
IMPORTANT: This sequence is unfinished and does not necessarily
represent the correct sequence. Work on the sequence is in
progress and the release of this data is based on the understanding
that the sequence may change as work continues. The sequence may
be contaminated with foreign sequence from E.coli, year, vector,
phage etc. Order of segments is not known; 800 n's separate
segments. Contig_ID: 00372 Length: 3719bp
Contig_ID: 02382 Length: 1110bp
                                                                                                                                                                                                                                                                                                                                                                        77783 GGGTGTCCCGAGTCTCAGGGGCTGGGGGGCAGGCGGCCGTCGGGTGCAGGTGGGGGGTCA 77724
                                                                                                                                                                         CGGCAGGCTCACTCAGGCATGAGTCGGGAGAAGGGAGAGGCCAGCTGGAAGGGGGCCAGGGG 77664
                                                                                                                                                                                                                              959 ccggcaggggctgaggaggaggagcagggggtgctgcgtggaaggtgctgcaggtccttg 1018
                                                                                                                                                                                                                                                                                77663 recrecedecredaecadeadeadecadadecredadecedeadegecreceredeadea 77604
                                                                                                                                                                                                                                                                                                                                       caegetgtgtegegectetectecteggaaacagaaceteceacageacatectaeceg 1078
           839 gggatggccagagctgctggagatggaggctgcatgcccccgaagccattttagggtgg 898
                                                                                                                        HSDJ663D7 185436 bp DNA HTG 03-FEB-2000 Homo sapiens chromosome 20 clone RP4-663D7, *** SEQUENCING IN PROGRESS ***, 25 unordered pleces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 185436)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length: 3274bp.
'working draft' sequence. It currently
contigs. The true order of the pieces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length: 2709bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length: 10288bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length: 64141bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length: 1526bp
Length: 9323bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         th:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          consists of 25 contigs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AL121907
AL121907.14 GI:6982672
HTG; HTGS_PHASE1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77543 GCCCCTGGCGTCCGTGTG 77525
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1079 gaagaccagcctcagaggg 1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contig_ID: 02831
Contig_ID: 03047
Contig_ID: 03047
Contig_ID: 03141
Contig_ID: 03435
Contig_ID: 03437
Contig_ID: 03447
Contig_ID: 03481
Contig_ID: 03661
Contig_ID: 03661
Contig_ID: 03661
Contig_ID: 03695
Contig_ID: 03754
Contig_ID: 03754
Contig_ID: 03754
Contig_ID: 03952
Contig_ID: 03952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contig_ID: 02748
Contig_ID: 02760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    04045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 14
HSDJ663D7/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                     899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                       1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMMENT
```

ö 21732 GGGGTGTCCCGAGTCTCAGGGGCTGGGGGCAGCGGCCGTCGGGTGCAGGTGGGGGTCA 21673 839 gggatggccagagctgctggagatggagggctgcatgcccccgaagccattttagggtgg 898 Length 185436; 800 bp f 9323 bp in length 800 bp f 3274 bp in length. /clone_lib="RPCI-4" 33782 a 49857 c 48991 g 33600 t 19206 others Indels Query Match
3.4%; Score 41.4; DB 33;
Best Local Similarity 47.5%; Pred. No. 1.2;
Matches 123; Conservative 0; Mismatches 136; /organism="Homo sapiens" /db_xref="taxon:9606" contiq of Location/Qualifiers /clone="RP4-663D7" 172040 181362: conți 181363 182162: gap of 182163 185436: conți qq

8

g

à

g

à

ò

```
the Hexamer program which was written by Richard Durbin as an integral part of the ACEDS-based analysis tools for the C.elegans Genome Sequencing Project. The program calculates the log-likelihood score for a given DNA segment based on the frequency of 6 mers, normalised for the base-pair composition of the genome. The program was trained using a fasta file of confirmed Leismania major coding sequences (CDS), i.e. from ATG start codon to the stop
                                                                                                                                                                                                                                                                                                             CAUTION: We may not have predicted the correct initiation codon. Where possable we choose an initiation codon (atg) which is preceded by a stretch of pyrimidines or part of a Kozak sequence. If this cannot be identified we choose the most upstream initiation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complement(1111. .3867)
//gene=1.4/68.01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Transmembrane domains were predicted as implemented at the TMHMM server: http://www.cbs.dtu.dk/services/TMHMM-1.0/
IMPORTANT: This sequence MAY NOT be the entire insert of the sequenced clone. It may be shorter because we only sequence overlapping sections once, or longer, because we arrange for a small overlap between neighbouring submissions.

Cosmid L4768 does not overlap any sequenced cosmids to date.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="region of BLASTN similarity to bases 11104...1
AC010851 Leishmania major chromosome 22 clone L4134,
complete sequence.; 64% identity over 116 bases"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  525. .561
/note="cccccccccccccccccccccccccccc"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  complement(802. .827)
/note="ccctcctcctcctcctctc"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Leishmania major"
/strain="Friedlin"
/db_xref="taxon:5664"
/chromosome="23"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label-ccccctctccccttctcc
complement(316. .330)
/note="ttccccctctccct"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              216. .234
/note="ccccctctccccttctcc'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label-ttccccctctcct
525. .561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone="cosmid L4768"
2. .118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label={gcat}3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .40969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       131:145-150). The sequence of the packaged vector was determined by Peter Myler and Ken Stuart at Seattle Biomedical Research Institute, and is available as accession number U5931.

The more significant matches with motifs in the PROSITE database are also included but some of these may be fortuitous.

The length in codons is given for each CDS.

Usually the highest socing match found by fast -o is given for CDS which show significant similarity to other CDS in the database.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL132763.1 GI:6165382
GGG-related protein kinase; DNA replication licensing factor MCM4;
drug resistance protein; GlO protein homologue; heat shock protein
HSLU; integral membrane protein; sodium stibogluconate resistance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequencing project, Sanger Centre, The Wellcome Trust Genome compus, Wilaxton, Cambridge GBIO 187, (E-mail: barrell@sanger.ac.uk) and GATC GmbH, Fritz-Arnold Str 23, D-78467 Konstanz, Germany see http://www.ebi.ac.uk/parasites/leish.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Details of leishmania sequencing at the Sanger Centre are available on the World Wide Web.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   see http://www.sanger.ac.uk/Projects/L_major/
CDS are numbered using the following system eg L4768.01. L4768
(cosmid name). 01 (first CDS)
To make the cosmid library Leishmania major Friedlin DNA was
partially disested with Sau3A1 prior to cloning into BamHI site of
the cosmid shuttle vector cLHYG (Ryan et al. 1993 Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bothe, G., Pohl, T., Ivens, A.C., Lawson, D., Murphy, L., Quail, M., Rajandream, M.A. and Barrell, B.G. Direct Submission Submitted (15-DEC-1999) European Leishmania major Friedlin genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the FramePlot program of Bibb et al.,
Gene 30:157-166(1984) as implemented
at http://www.nih.go.jp/
jun/cgi-bin/framePlot.pl. (2)
codon preference based on the codon usage table for Leishmania at
http://www.kazusa.or.jp/codon/
                                                                                                                                                                                                                                                                                                                                                          11552 CCTGTGGCCCTTGGCCCCAGCGCCATGGGCGCTTCCAGGCCGCACCTTGCCTTGCCT 21493
                                                     ccggcaggggctgaggaggaggagcagggggtgctgcgtggaaggtgctgcaggtccttg 1018
                                                                                                                                                                                                                                                                                                             cacgotytytogogoctotoctotygaaacagaacctoccacagcacatoctacocg 1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lewis, S.M., Bagherzadeh, A., Zhang, L., Chan, H.M. and
        15-DEC-1999
                                                                                                                                                                                                                                Leishmania major
Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A physical map of the Leishmania major Friedlin genome Genome Res. \theta (2), 135-145 (1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LMFL4768 40969 bp DNA INV 15-
Leishmania major Friedlin chromosome 23 cosmid L4768.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gene prediction is done using:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21492 GCCCCTGGCGTCCGTGTG 21474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1079 gaagaccagcctcagaggg 1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 40969)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Leishmania.
1 (bases 1 to 40969)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Leishmania major.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ivens, A.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98146435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Notes:
                                                                                                                                                           959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                             1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LMFL4768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
```

5

/product="possible cdc2-related protein kinase'

```
//dbel-ctcccccctttttccc
complement(5335. 6777)
/gene="L4768.02"
complement(535. 6777)
/gene="L4768.02"
complement(535. 6777)
/gene="L4768.02"

similarity to Y401_LAMBD, hypothetical protein orf401. (401 aa, Bacteriophage lambda, EMBL: J02459, AAA96555); Fasta scores: E():0.012, 28.5% identity in 249 aa" /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complement(2104. .2142)
/gene="L4768.01"
/note="PROSITE PS00094 C-5 cytosine-specific DNA
methylases active site, info count = 22.3"
/gene="L4768.01"
                                                                                                                                                                         /product="hypothetical protein L4768.01"
/protein_id="CAB59858.1"
/db_xref="GI:6165383"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="predicted TW helix region"
complement(3505, .3573)
/gene="L4768.01"
/note="predicted TW helix region"
3894, .3908
/note="ccccttctccccc"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   complement(4934. .4956)
/note="ccctttctctctctctctct"
/label=ccctttctctctctctctctctct
/label=ccctttctcccctctctctct
/note="ctccctccccctttttcc"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 //dabel=rccctcctctctcctc
complement(4341, 4360)
/note="cccctccctccctccctccc"
/label=cccctccctccctcccc
complement(4341, 4355)
/note="(tccc)3" //abel=tccc)3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label-coccttctccccc
complement(4169, .4185)
/note="tccctcctcttcctc"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           complement(4446. .4462)
                                                                                                                                                      /label=L4768.01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
```

/codon_start=1 /label=L4768.02

```
17758 GCCGCATGAAGGGTCGCCTGCGCTACCTGGTGCGTGCCTGTGCGCCTGCTCATC-C 17816
                                                                                                                                                                                                                                                                                                                                                                                         17877 GGAGGAGGAGGAGGAGGAGGCAAAGGTGATTCAGCACCACCACCCTTTTTCTTTGG 17936
                                                                                                                                                                                                                                                                                                                                                                                                                                                           17698 TTGAGCATCGGCAAAAGGAAAAAGGAAAGCACGTGCGCTGGTGTGTGAGACCGTC 17757
                                                                                                                                                                                                                                                                                                                                                     ggaggagcagggggtgctgcgtgg--aaggtgctgcaggtccttgcacgctgtgtcgcgc 1033
                                                                                                                                                                                                                                                                                                                                                                                                                               1034 ctctcctcggaaacagaacctcccacagcacatcctacccggaagaccagcctcag 1093
                                                                                                                                                                                856 tggagatggagggctgcatgccccgaagccattttagggtggctgtggctcttcctcag 915
                                                                                                 796 ttgagcagttcttaaagaacagcccagacacaaacaaatacgagggatggccagagctgc 855
                                                          3; Gaps
                                                                                                                                                                                                                                                               916 ccaggggcctgaagaagctcctgcctgacttaggagtcagagcccggcagggctgagga
                  Length 40969;
                                                             Indels
               Query Match 3.3%; Score 39.8; DB 34; Best Local Similarity 49.5%; Pred. No. 3.2; Matches 157; Conservative 0; Mismatches 157;
Score 39.8; DF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Search completed: May 31, 2000, 18:37:16
Job time: 5575 sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17997 CGTGCTCTCCAGATGCC 18013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1094 agggtccttctggaacc 1110
                                                                                                                                                                                                                                                                                                                                                   916
                                                                                                                                                                                                                      Dp
                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                   ò
                                                                                                                                                                                                                                                                 δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
```

			•	
	·			
·				
		•		•